S. HRG. 110–86

MISCELLANEOUS WATER BILLS

HEARING

BEFORE THE

SUBCOMMITTEE ON WATER AND POWER

OF THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES UNITED STATES SENATE

ONE HUNDRED TENTH CONGRESS

FIRST SESSION

ON

S. 175
S. 324
S. 542
S. 752
S. 1037
S. 1112
S. 1116
H.R. 235
H.R. 902

APRIL 25, 2007

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MISCELLANEOUS WATER BILLS

WEDNESDAY, APRIL 25, 2007

U.S. SENATE,
SUBCOMMITTEE ON WATER AND POWER,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The subcommittee met, pursuant to notice, at 2:30 p.m., in room SD–366, Dirksen Senate Office Building, Hon. Ken Salazar presiding.

OPENING STATEMENT OF HON. KEN SALAZAR, U.S. SENATOR FROM COLORADO

Senator SALAZAR. I call the hearing to order of the Water and Power Subcommittee of April 25, 2007.

We have a time problem because we have three votes coming up in half an hour and then following that we have an all Senators briefing on the Middle East and so we're going to get all of this hearing done in a very short period of time.

It's my pleasure to welcome everybody to this afternoon's hearing today. We'll have two panels of witnesses competing with that we have these three votes and for that reason I wanted to get the hearing started on time and move it along as quickly as possible.

In the interest of time what we'll do is we'll ask each Senator to limit their opening comments and submit their statements for the record. I have a long statement that I'll submit for the record and I will ask my colleagues to do as well.

Second, with respect to the first panel of witnesses from the administration, we simply accept their statements for the record and we'll go directly to questions and answers so that we can get to the second panel in the next half an hour.

If these suggestions are acceptable to Senator Corker and Senator Thomas, we'll proceed in that expedited fashion. The following nine bills are before us today:

S. 175, sponsored by Senator Inhofe which authorizes a feasibility study on water supply alternatives in central Oklahoma.

S. 324, sponsored by Senators Domenici and Bingaman authorizing ground water studies in New Mexico.

S. 542, sponsored by Senator Craig, authorizing feasibility studies on water supply alternatives within the Snake River Basin in Idaho.

S. 752, sponsored by Senators Nelson, Allard, Hagel and myself concerning the Federal participation in the Platte River endangered species recovery program.

S. 1037, sponsored by Senators Smith and Wyden authorizing a water conservation project within the Tumalo Irrigation District in Oregon.

S. 1112, sponsored by Senators Feinstein and Boxer and H.R. 235, sponsored by Representative Thompson, which would allow a contract modification for the benefit of the Redwood Valley Water District in California.

And finally S. 1116, which Senators Bingaman, Domenici, Thomas and I are sponsoring and H.R. 902, sponsored by Representative Mark Udall, which addresses the generation and beneficial use of produced water.

With that quick opening statement, I'll turn to Senator Corker, the ranking member, for any brief comments he would like to make.

[The prepared statements of Senators Salazar, Craig, Domenici, Hagel and Smith follow:]

PREPARED STATEMENT OF HON. KEN SALAZAR, U.S. SENATOR FROM COLORADO

I call to order this hearing before the Water and Power Subcommittee. It's my pleasure to welcome everyone to this afternoon's hearing. We have a full agenda today. Competing with that is an Iraq briefing for all Senators beginning at 4:00 pm. For that reason, I will get the hearing started and move it along as quickly as possible.

The following nine bills are before us today: S. 175, sponsored by Senator Inhofe, authorizes a feasibility study on water supply alternatives in Central Oklahoma; S. 324, sponsored by Senators Domenici and Bingaman, authorizes groundwater studies in New Mexico; S. 542, sponsored by Senator Craig, authorizes feasibility studies on water supply alternatives within the Snake River basin in Idaho; S. 752, a bill I'm sponsoring with Senators Nelson, Allard, and Hagel, directs federal participation in the Platte River Endangered Species Recovery Program; S. 1037, sponsored by Senators Smith and Wyden, authorizes a water conservation project within the Tumalo Irrigation District in Oregon; S. 1112, sponsored by Senators Feinstein and Boxer, and H.R. 235, sponsored by Representative Thompson, allow a contract modification for the benefit of the Redwood Valley Water District in California; and finally, S. 1116, which I am sponsoring with Senators Bingaman, Domenici, and Thomas, and H.R. 902, sponsored by Representative Mark Udall, address the generation and beneficial use of produced water, a by-product of oil and gas production.

We have 2 panels of witnesses today. The first panel consists of representatives of the Administration. Bob Johnson is the Commissioner of the United States Bureau of Reclamation and Bob Hirsch is the Associate Director for Water at the United States Geological Survey. Welcome to both of you.

Before we get started, I'd like to note that the Subcommittee has received written testimony on several bills before us today. That testimony, as well as the written submissions of all the witnesses before us, will be made part of the official record.

I'd now like to make some brief remarks about the bills that I'm sponsoring which are before the Subcommittee today.

Senator Bingaman, Senator Domenici, Senator Thomas and I introduced legislation, S. 1116, the "More Water, More Energy, and Less Waste Act of 2007," to facilitate the use of water produced in connection with development of energy resources for irrigation and other beneficial uses in ways that will not adversely affect water quality or the environment.

Our bill is similar to one that has been introduced during this Congress in the House by Representative Mark Udall (H.R. 902, More Water and More Energy Act of 2007).

The bill's purpose is to help turn what is today an energy-industry problem into an opportunity. The development of energy resources frequently results in bringing to the surface water from underground sources. Energy producers seek to minimize the waters that are produced during extraction operations, but inevitably waters are produced and they must either be treated before being released to the surface or returned to the ground. In a few cases, the waters are clean enough to be used for livestock watering, irrigation or other beneficial purposes.

Especially in the water-short West, increasing the amount of water that can be used without adversely affecting water quality or the environment can increase

water supplies for irrigation of crops, livestock watering, wildlife habitat, and recreational opportunities. Everyone will benefit from increased supplies of usable water, even if the supplies are temporary in nature, provided that the new water is of good quality and will not adversely affect the environment now or in the future.

Our bill would direct the Commissioner of Reclamation, the Director of the U.S. Geological Survey, and the Director of the Bureau of Land Management to conduct a study to identify the technical, economic, environmental, and other obstacles to (1) reducing the quantity of produced water and (2) increasing the extent to which produced water can be used for irrigation and other purposes, without adversely affecting water quality or the environment, during or after energy development. Our bill will also provide grants for at least five projects to demonstrate (1) ways to optimize energy resource production by reducing the quantity of produced water generated or (2) the feasibility, effectiveness, and safety of processes to increase the extent to which produced water may be recovered and made suitable for use for irrigation, municipal, or industrial uses, or other purposes without adversely affecting water quality or the environment.

In the water-short West, the produced waters are a virtually untapped resource, and the benefits of using them for irrigation and other purposes could be substantial. It is estimated that up to 18 million barrels of produced waters are generated each year from oil and gas operations. Finding ways to minimize the waters that are produced during oil and gas extraction and then putting to beneficial use those waters that are produced, is a win/win for everyone.

However, there are significant hurdles that must be overcome before produced waters can be used as a water resource in ways that do not adversely affect our water quality or harm our environment. The study required in our bill will bring our country closer to using this important untapped resource.

Senator Ben Nelson along with Senator Allard, Senator Hagel, and myself, introduced S. 752, the "Platte River Recovery Implementation Program and Pathfinder Modification Authorization Act of 2007," to authorize the Secretary of the Interior to participate in the implementation of the Platte River Recovery Implementation Program for endangered species in the Central and Lower Platte River Basin, and to modify the Pathfinder Dam and Reservoir.

Our bill is similar to one that has been introduced during this Congress in the House by Representative Mark Udall (H.R. 1462, Platte River Recovery Implementation Program and Pathfinder Modification Authorization Act).

Almost ten years ago, the Governors of Nebraska, Wyoming and Colorado and the Secretary of Interior signed the "Cooperative Agreement for Platte River Research and Other Efforts Relating to Endangered Species Habitat along the Central Platte River, Nebraska." The Program will be a basin-wide effort undertaken by the Department of the Interior and the States of Colorado, Nebraska, and Wyoming to provide benefits for the endangered interior least tern, whooping crane, and pallid sturgeon and the threatened piping plover.

The Program has three main elements: 1) increasing streamflows in the Central Platte River during relevant time periods through retiming and water conservation supply projects; 2) enhancing, restoring and protecting habitat lands for the target bird species; and 3) accommodating certain new water related activities. The Program's long-term objective for water is to provide sufficient water to and through the Central Platte River habitat area to assist in improving and maintaining habitat for the target species.

One of the Program's purposes is to mitigate the adverse impacts of certain new water related activities through the implementation of state and federal depletions plans. This will allow continued growth and water development to occur in the Platte River basin along with improving conditions for the target species.

Thank you.

PREPARED STATEMENT OF HON. LARRY E. CRAIG, U.S. SENATOR FROM IDAHO

Idaho's storage capacity is being stressed by increasing demands from irrigation, power generation, industrial users, municipal users, and fish habitat.

Idaho is growing at an unprecedented rate, particularly in the Treasure Valley. The assessment has already pointed out that, in less than 30 years, over 100,000 additional acre feet of water per year will be needed to meet increased demand. Beyond additional water, there is concern over current flood control because the increasing development and channelization of the Boise River is decreasing flood control capacity. Additionally, Idaho has four species of salmonids that are listed as threatened or endangered under the Endangered Species Act that require a significant amount of water for flow augmentation. This will reduce the pressure of other

impoundments that are losing significant amounts of water causing different resource concerns.

These increasing demands, coupled with limited storage, have caused concern for me and many of my constituents. In 2003, dialogue regarding needed water supplies began and a Stakeholder Working Group was created from many interest groups from federal, state and local partners to address irrigation, municipal, and environmental interests. These parties have worked collaboratively with the Bureau of Reclamation to locate appropriate storage options from adding to existing impoundments to building new structures to recharge.

I would like to thank the Bureau of Reclamation and the Boise regional office in particular for their leadership and assistance in addressing Idaho's water needs.

However, the Bureau of Reclamation needs congressional authorization to take the next step and do feasibility studies in the areas identified by the Stakeholder Working Group. I support this legislation and hope through the feasibility study process, we can determine possible locations for needed additional storage for my constituents in Idaho.

This bill is simple and should be non-controversial. S. 542 authorizes the Secretary of the Interior to conduct feasibility studies and address certain water shortages within the Snake, Boise, and Payette River systems in Idaho as well as authorizes the required appropriations.

I ask unanimous consent that the Idaho Water Users Association testimony be made part of the record.

Thank you.

PREPARED STATEMENT OF HON. PETE V. DOMENICI, U.S. SENATOR FROM NEW MEXICO

Mr. Chairman, thank you for having this hearing today. Approximately 90 percent of New Mexicans depend on groundwater for drinking water and 77 percent of New Mexicans obtain water exclusively from groundwater sources. During times of drought, when surface water is scarce, New Mexicans must be able to reliably turn to groundwater. While groundwater supplies throughout the State are coming under increasing competition, not enough is known about these resources in order to make sound decisions regarding their use.

S. 324, the New Mexico Aquifer Assessment Act would direct the United States Geological Survey, in collaboration with the state of New Mexico, to undertake a groundwater resources study in the state of New Mexico. A comprehensive study of the State's water resources is critical to effective water planning. I want to thank Chairman Bingaman for co-sponsoring S. 324.

Another bill we are addressing today, S. 1116, introduced by Senator Salazar, and which I am an original co-sponsor, addresses one of the many key interrelationships of energy and water. Reducing where possible the amount of produced water and using the water that remains in the most effective manner is a very important issue for New Mexico and much of the inter-mountain west.

I look forward to hearing from the witnesses today. Thank you Mr. Chairman.

PREPARED STATEMENT OF HON. CHUCK HAGEL, U.S. SENATOR FROM NEBRASKA

Mr. Chairman: The development of water resources along the Platte River has altered the habitat of three species of bird and one fish species, all of which are listed under the Endangered Species Act (ESA): the least tern; the piping plover; the whooping crane; and the pallid sturgeon. As a result, in 1997, Nebraska, Colorado, Wyoming, and the U.S. Department of Interior entered into a partnership to develop a program to improve habitat for the four species. Between 1997 and 2006, the Platte River Recovery Implementation Program (Program) was formulated by the states, the Department of Interior, and other interested parties.

In December 2006, the Governors of Nebraska, Colorado and Wyoming, along with the Department of Interior, signed a new agreement to implement the Program, which took effect on January 1, 2007.

The new Program would:

- restore and protect lands for the four endangered species by increasing stream flows during certain times of year, and through other methods;
- provide a legal framework to protect existing water users along the Platte River;
- prepare for additional water use by new users, and set rules for those users; and

• provide for ongoing scientific research on the four species.

S. 752, the Platte River Recovery Implementation Program and Pathfinder Modification Authorization Act of 2007, authorizes the relevant federal agencies to participate in the Program, and authorizes $157 million over 13 years to cover the federal portion of the project cost. This legislation is essential to the success of the Program.

I applaud Nebraska Governor Dave Heineman for working with the Governors of Wyoming and Colorado, the U.S. Department of Interior and local stakeholders for developing a plan that will improve the habitat of endangered species, and protect both existing and future water users along the Platte River. This is the kind of infra-state cooperation that will be necessary to address future water challenges in Nebraska and across the U.S.

It is important that we assist the states with the implementation of this Program by passing S. 752 as soon as possible.

Thank you.

PREPARED STATEMENT OF HON. GORDON H. SMITH, U.S. SENATOR FROM OREGON

Mr. Chairman, I want to thank you for convening this hearing to review several bills that are important to our respective states. As the sponsor of one of the bills before us today, I would like to submit for the hearing record the statement of the Tumalo Irrigation Water District on S. 1037.

Briefly, S. 1037 would authorize the Secretary of the Interior to assist in the planning, design, and construction of the Tumalo Irrigation District Water Conservation Project in Deschutes County, Oregon. This project involves piping about six miles of open canals. This will enable the District, in accordance with state water law, to return an estimated 20 cubic-feet-per-second of conserved water to in-stream flows in Tumalo Creek and the Deschutes River.

In recent years, sections of the Deschutes River—below diversions by the federal Reclamation project in the basin—have dropped to as low as 30 cubic-feet-per-second during certain times of the year. The Deschutes Basin is in arid central Oregon, and there are several federally-listed fish species in the river. The water returned to in-stream flows under this conservation project would be significant, and could also help mitigate the impact of federal project operations in the basin.

This project will also enhance public safety in the region by eliminating the concerns related to open canals. By replacing these open canals with pressurized pipelines, the project will also improve the delivery of irrigation water to farmers in the Tumalo irrigation District's service area.

The bill as introduced provides for the District to fund 75 percent of the total cost of the project's design, planning and construction. In addition, the District will pay the operation and maintenance costs of the project. Upon completion, Tumalo Irrigation District will hold title to any facilities constructed under this Act.

If we are going to meet the federal goals for the recovery of fish species in the arid west, we must begin to recognize the value of water conserved by non-federal partners such as the Tumalo Irrigation District.

Again, I want to thank the witnesses who are here today, and I look forward to hearing your testimony.

STATEMENT OF HON. BOB CORKER, U.S. SENATOR FROM TENNESSEE

Senator CORKER. In the interest of time, I'll be very brief, but Senator, I'm glad to join you at the first meeting of this subcommittee.

I'm sorry that Senator Johnson cannot be with us but we're glad that his staff is. We look forward to him being back with us very soon and just want to welcome our panel and members of the public who are participating in the meeting and with that I'll turn it back over to you, Mr. Chairman. Thank you.

Senator SALAZAR. Thank you, Senator Corker.

Senator Thomas.

STATEMENT OF HON. CRAIG THOMAS, U.S. SENATOR FROM WYOMING

Senator THOMAS. Thank you. I'll also be brief. Thank you for holding the meeting.

A couple of bills here that I am particularly interested in, of course, the Platte River and also the recovery. In the second panel we'll have two leaders from Wyoming here. So, I'll introduce them then, if I may. So otherwise, get on with the hearing.

Senator SALAZAR. Thank you. In the interest of time I think I have about, it seems that staff has prepared about 20 questions. So what I think we will do in order to be able to hear from the rest of the panel that has traveled, some of the other panelists have traveled a long way here.

I will submit these questions to you and if you could submit written responses to the committee. I would appreciate that very much and I would ask you both, Mr. Johnson and Dr. Hirsh, if you have a quick comment with respect to the legislation that is before us today.

STATEMENT OF ROBERT JOHNSON, COMMISSIONER, BUREAU OF RECLAMATION, DEPARTMENT OF THE INTERIOR

Mr. JOHNSON. We've submitted our comments for the record. In the interest of time, I'll abstain and be glad to answer questions but we'll just pass.

[The prepared statement of Mr. Johnson follows:]

PREPARED STATEMENT OF ROBERT JOHNSON, COMMISSIONER, BUREAU OF RECLAMATION, DEPARTMENT OF THE INTERIOR

S. 175

Mr. Chairman and members of the Subcommittee, I am Robert Johnson, Commissioner of the Bureau of Reclamation. I am pleased to present the views of the Department of the Interior on S. 175 concerning the Central Oklahoma Master Conservancy District (District) Feasibility Study.

S. 175 would authorize Reclamation to conduct a Feasibility Study of alternatives to augment the water supplies of the District and cities served by the District. S. 175 would also require the study to be conducted within one year of the date of enactment, and authorize $300,000 to be spent in conducting the study. The Department does not support S. 175.

The one-year timeframe for the study described in S. 175 is insufficient for a thorough evaluation of alternatives to meet future water needs of surrounding communities not presently served by the District and would be a very aggressive schedule. This timeframe would also make completion of the Feasibility Study, including preparation of the appropriate National Environmental Policy Act (NEPA) compliance document, extremely problematic and may prove difficult to achieve with any degree of accuracy.

The Department recognizes that a water need exists for the District. Reclamation is currently preparing a scope of work in coordination with the District, which focuses the plan of study to be completed. However, the Department does not support authorization of a Feasibility Study at this time.

Thank you for the opportunity to comment on S. 175. This concludes my statement and I am happy to answer any questions.

S. 542

I am Robert Johnson, Commissioner for the Bureau of Reclamation. I am pleased to be here today to provide the Department of the Interior's views on S. 542, legislation to authorize the Secretary to conduct feasibility studies to address water shortages within the Snake, Boise, and Payette River systems in Idaho.

Reclamation previously provided testimony on September 21, 2006, regarding the Administration's views on H.R. 2563 as referred to the Senate Energy and Natural

Resources Committee, a bill equivalent to S. 542 introduced this Congress. Consistent with our testimony in the last Congress, we support S. 542.

The State of Idaho continues to experience the effects of a prolonged drought as well as tremendous growth and urbanization in the Boise and Payette River basins. Projected population growth will eventually over-extend existing ground water supplies for these rapidly growing areas. In light of this and other water resource issues elsewhere in the state, the Idaho State House of Representatives issued Joint Memorial No. 24 in 2004, which "recognizes the need for additional water to meet Idaho's emerging needs and encourages Federal and State agencies to cooperate with Idaho in identifying and developing such water supply projects."

Under existing authorities, Reclamation initiated an assessment level water supply study specifically in the Boise and Payette basins. Stakeholders with wide representation from the State, Federal, agricultural, environmental and municipal sectors participated in that study. The Final Boise/Payette Water Storage Assessment Report was completed in July 2006 and was distributed to local State, Federal, agricultural, environmental and municipal parties.

S. 542 would go the next step by authorizing Reclamation to conduct feasibility studies within the Snake, Boise, and Payette River systems. However, while the legislation provides authority for feasibility studies in the Snake River system, Reclamation's assessment report referenced in the legislation solely evaluated and identified projects for further consideration in the Boise and Payette river systems, thus limiting the scope of the bill's authorization.

Reclamation supports focused, basin-by-basin water resource studies with input and local involvement from the State and the stakeholder communities. We recognize the need to address projected water supply shortages in the Boise and Payette River systems, and look forward to doing so in partnership with future beneficiaries. We would welcome the opportunity to be an active partner in addressing these water supply issues with the State of Idaho and its water users. However, any studies conducted under this new authority would still need to compete with other needs within the Reclamation program for funding priority in the President's Budget.

This concludes my testimony. I am pleased to answer any questions.

S. 752

Mr. Chairman and members of the subcommittee, I am Robert Johnson, Commissioner of the Bureau of Reclamation. I appreciate the opportunity to appear before you today to discuss S. 752, the Platte River Recovery Implementation Program and the Pathfinder Modification Authorization Act. The Department supports passage of S. 752.

The Platte River originates in the mountains of Wyoming and Colorado and, as it flows through Nebraska, provides important habitat for the whooping crane, piping plover, interior least tern, and pallid sturgeon (target species) that are listed as threatened or endangered under the Endangered Species Act (ESA). In 1997, the States of Colorado, Nebraska, and Wyoming and the Department of the Interior signed a Cooperative Agreement to develop a basin-wide program that would provide measures to assist in the recovery of these four target species in the Platte River in Nebraska. In late 2006, the Platte River Recovery Implementation Program (Program) Agreement was signed by the Governors of the three States and the Secretary of the Interior, allowing for Program implementation to begin January 1, 2007. The Program assists in the conservation and recovery of the target species in the Platte River basin and implements aspects of the recovery plans for these species, thereby providing compliance under the Endangered Species Act (ESA) for existing water related activities and certain new water-related activities in the Platte River Basin in Colorado, Wyoming, and Nebraska.

Title I of S. 752 provides authorization for the Secretary of the Interior, through the Bureau of Reclamation, to fully implement the Program. It also provides Reclamation with authority to appropriate non-reimbursable funds for the Program. Reclamation, in cooperation with the Governance Committee, will implement the Program in incremental stages with the first increment being a period of 13 years. Pursuant to the Program Agreement, the Federal cost share for the first increment is $157 million (2005 dollars), plus indexing. The State cost-share is the same amount, to be provided from the three State Parties to the Program Agreement.

Pre-implementation activities, such as forming the new Governance Committee, initiating the selection of the Executive Director, and various administrative functions have already begun. Federal activities up to this point have been authorized under existing law encouraging the Department of the Interior to work with States to promote habitat protection and the protection of species. Under the ESA, the Program can initiate monitoring and research activities; however, actual water and

land acquisitions cannot be initiated using Federal funds prior to enactment of this legislation. Upon enactment of this authorizing legislation, Program land and water acquisitions will begin. It is critical that acquisitions begin early in the Program to allow sufficient time to evaluate the biological response and effectiveness of the Program's recovery measures.

Title II authorizes the Secretary, through the Bureau of Reclamation, to modify Pathfinder Dam and Reservoir and enter into agreements with the State of Wyoming to implement this modification. No Federal funds are required for this activity.

In accordance with our commitment to cooperative conservation, the Department of the Interior seeks to encourage the efforts of States and local communities to play active roles in managing the resources they depend on for their livelihoods. The Platte River Recovery Implementation Program that would be authorized under this Act is an example of a partnership combining Federal and Non-Federal funding in an ongoing effort to recover endangered species while also meeting the water needs of local communities, irrigators, power generation, and the environment. Enactment of this legislation provides an opportunity not only to meet ESA requirements using a basin-wide, cooperative, and scientific approach, but to do so in a manner that protects existing water uses and allows for future water uses in the Platte River Basin. For these reasons, the Administration supports S. 752.

Mr. Chairman, this completes my statement. I am happy to answer any questions the Subcommittee may have.

S. 1037

I am Robert Johnson, Commissioner of the Bureau of Reclamation. I appreciate the opportunity to provide the Department's views on S. 1037, legislation to authorize the Secretary to participate in the planning, design, and construction of the Tumalo Irrigation District Water Conservation Project in Deschutes County, Oregon. The Department cannot support S. 1037.

The Tumalo Irrigation District (District) and the facilities in question are not part of a Reclamation project. During the 1990's the District did have a repayment contract for rehabilitation of Crescent Lake Dam. The District satisfied its repayment obligation to the United States in 1998, and holds title to all project facilities.

The Tumalo Irrigation District Water Conservation Project (Project) would convert approximately 6 miles of open canal in the District into a pipeline. It is Reclamation's understanding that the Project, known locally as the Tumalo Feed Canal pipeline, would conserve up to 20 cubic feet per second (cfs) of water for instream use. The Administration supports the objective of the District to conserve water and to improve instream flows while not diminishing the amount of water available for agricultural uses. Furthermore, we recognize the improvements made in S. 1037 over legislation introduced in the previous Congress.

S. 1037 authorizes the Secretary to participate in the planning, design, and construction of the Project and provides authorization for $4.0 million to be appropriated for the Federal share of the Project. Project sponsors anticipate the Federal share of the Project would be made in the form of a grant, however, the language in Section 3(a)(1) does not clearly give the Secretary such authority.

Most importantly, the Department is concerned that use of Reclamation funds on non-Reclamation projects would adversely impact water projects which Congress has charged Reclamation with operating and maintaining. Reclamation activities are targeted to perform essential functions at Federal projects, such as security, operations and maintenance (O&M), resource management, dam safety, and construction.

As conceived, the District's water conservation project may be ideally suited to compete for funds within the Department of Interior's existing water conservation programs like the Water 2025 Program. Through such conservation programs, local entities develop innovative on-the-ground solutions to water supply problems with financial assistance from Reclamation. However, because of the reasons stated above, the Department cannot support the legislation as written.

This concludes my testimony. I would be pleased to answer any questions.

H.R. 235

Mr. Chairman and members of the Subcommittee, I am Robert W. Johnson, Commissioner of the Bureau of Reclamation. For the reasons discussed below, the Department does not support H.R. 235.

Reclamation has worked with the Redwood Valley County Water District (District) for over 30 years to fund and build a water distribution system to provide over 1,100 residents and farmers of Redwood Valley, California with a reliable municipal and industrial water supply. Although we recognize the need to develop a workable

strategy for ensuring the District is able to repay its loan obligation to Reclamation, because H.R. 235 could provide the District legislative loan forgiveness, Reclamation cannot support the bill.

Over 25 years ago, Reclamation executed two 35-year repayment contracts with the District (contract numbers 14-06-200-8423A and 14-06-200-8423A Amendatory) for two Small Reclamation Projects Act (P.L. 94-984) loans totaling $7.3 million. Combining those loans with funding from other sources, the District built an $8.5 million water system project that is still in use today. By 1982, the District's water rate for its customers were above the state average, yet still inadequate to generate revenues for facilities operation and maintenance and repayment of a projected debt of $200,000 per year. That same year the District informed Reclamation of possible repayment problems.

Beginning in the late 1980s, the District, congressional representatives, and Reclamation engaged in numerous discussions over the District's inability to make the scheduled loan payments. Subsequent legislation resulted in a postponement of loan interest, but did not produce any positive outcome on the repayment issue.

Compounding its fiscal problems, the District does not have a firm and reliable water supply and is currently under a court-ordered moratorium preventing new service connections. This moratorium has greatly hampered the District's ability to repay its two loans.

Reclamation cannot support H.R. 235 because the legislation's repayment provision does not establish a date certain for either repayment to begin or to be concluded. The proposed legislation does not provide any assurance that the United States will ever receive payment on the two loans, and essentially could provide loan forgiveness. The renegotiated payment arrangement could further postpone repayment of money owed Reclamation.

Reclamation recognizes that a firm and reliable water supply is likely necessary to resolve the District's current financial dilemma, which prevents the District from being able to complete repayment of these two loans. Also, any deferment legislation should include language to ensure that the District first uses proceeds from the sales of such a supply to repay the new obligation used to secure the water supply and second to satisfy the District's repayment obligations to Reclamation. Furthermore, such legislation should include a date certain for repayment of Reclamation loans to begin or to be completed. We support efforts by the District to recover financially and find a solution that will enable it to pay its debts. Any such solution must ensure that the loans made by Reclamation will be wholly repaid.

While the Department cannot support H.R. 235, we look forward to working with the District to address the repayment issue. This concludes my prepared remarks. I am pleased to answer any questions.

Senator SALAZAR. Dr. Hirsh.

STATEMENT OF ROBERT M. HIRSCH, ASSOCIATE DIRECTOR FOR WATER, U.S. GEOLOGICAL SURVEY, DEPARTMENT OF THE INTERIOR

Mr. HIRSCH. Same, same for me. Our statement stands.

[The prepared statement of Mr. Hirsch follows:]

PREPARED STATEMENT OF ROBERT M. HIRSCH, ASSOCIATE DIRECTOR FOR WATER, U.S. GEOLOGICAL SURVEY, DEPARTMENT OF THE INTERIOR

S. 324

Mr. Chairman and Members of the Committee, I am Dr. Robert M. Hirsch, Associate Director for Water for the U.S. Geological Survey (USGS). I thank you for the opportunity to provide the views of the Department of the Interior (Department) on S. 324, the "New Mexico Aquifer Assessment Act of 2007."

The Department agrees that the goals of the bill are commendable and the needs that could be addressed are real; however, we have concerns with this bill, including the availability of funding for the work proposed in the context of overall funding for the Administration's priorities. To ensure appropriate flexibility in budgetary management, the Administration recommends that this bill be amended to authorize rather than require the study within a statutorily prescribed timeframe. We would like to work with the committee to revise the bill to address these issues.

S. 324, THE "NEW MEXICO AQUIFER ASSESSMENT ACT OF 2007"

S. 324 directs the Secretary of the Interior, acting through the Director of the USGS, to conduct a study on ground-water resources in the State of New Mexico. The role identified for the Department in this bill is consistent with the leadership role of USGS in monitoring and assessing ground-water resources.

As the Nation's largest water, earth, and biological science and civilian mapping agency, the USGS conducts the most extensive ground-water and surface-water investigations in the Nation in conjunction with State and local partners. The USGS New Mexico Water Science Center currently operates 203 streamflow stations and routinely measures ground-water levels at 2573 well sites through cooperative programs with several Federal, State, Tribal, and local agencies. In addition to hydrologic monitoring programs, the USGS is providing hydrologic understanding to water agencies through the Cooperative Water Program by conducting several investigative projects that include describing the interaction of surface water and ground water in the Mesilla, upper Rio Hondo, and Middle Rio Grande Basins; planning geohydrologic studies in the Salt Basin; and evaluating water quality of the Rio Grande and Rio Chama. In support of all water agencies within New Mexico, USGS technical specialists actively participate on work groups and committees addressing critical New Mexico water issues. Currently, personnel are involved in the Technical Subcommittee of the Gila-San Francisco Coordinating Committee, the Espanola Basin Technical Advisory Group, and the Upper Rio Grande Water Operations Model Work Group.

The USGS has a long history of conducting ground-water assessments at a regional scale. In the 1980s, 25 regional aquifer systems were studied in detail as part of the Regional Aquifer-System Analysis (RASA) Program, including the Southwest Alluvial basins, High Plains aquifer, and San Juan Basin in New Mexico. More recently, the Middle Rio Grande Basin was studied extensively for 6 years as a partnership among Federal, State, and local sources.

Congress directed the USGS in their fiscal year (FY) 2002 appropriation to "prepare a report to describe the scope and magnitude of the efforts needed to provide periodic assessments of the status and trends in the availability and use of freshwater resources." We are midway through a pilot project in the Great Lakes region and a small effort in the Lower Colorado River basin to develop approaches for national assessment that began in FY 2005 as part of the USGS Ground-Water Resources Program. The approaches developed to date could be applied to New Mexico and nationwide. However, we note that a comprehensive study of a major aquifer system commonly takes 4 or more years to complete; and thus, the 2-year time frame for completing the overall study proposed by S. 324 would yield limited results.

CONCLUSION

In conclusion, the USGS concurs with the goals of S. 324. The proposed effort would help ensure long-term water supplies for the citizens, businesses, industry, and natural features of New Mexico, and the expertise of USGS is highly relevant to the tasks contemplated by the legislation. However, we are concerned with the funding requirements that accompany S. 324. We note that there are no funds in this year's budget or the President's FY 2008 budget to implement the legislation, and any future funding requests would have to compete with other priority projects for funds. We also note there are some ongoing efforts to address the goals of the Act. Finally, individual major aquifer studies commonly require 4 or more years to complete, and thus, the 2-year time frame for completing the overall study proposed by S. 324 would yield limited results.

Thank you, Mr. Chairman, for the opportunity to present this testimony. I will be pleased to respond to questions you and other Members of the Committee may have.

H.R. 902

Mr. Chairman and Members of the Subcommittee, I am Dr. Robert M. Hirsch, Associate Director for Water for the U.S. Geological Survey (USGS). I thank you for the opportunity to provide the views of the Department of the Interior on H.R. 902, the "More Water and More Energy Act of 2007."

The Department agrees that the goals of the bill are commendable, but we have concerns regarding the availability of funding and the Administration's priorities. In addition, the USGS and Bureau of Reclamation (Reclamation) currently have sufficient authority to carry out the types of activities authorized by H.R. 902.

Water is the lifeblood of the American West and the foundation of its economy, yet it is also the scarcest resource in some of the fastest growing areas of the country. Seeking to remove the obstacles to putting produced waters to beneficial use is important to our Nation's energy and water future.

H.R. 902 requires the Secretary of the Interior, acting through the Commissioner of Reclamation, and the Director of the USGS, to conduct a study to identify the technical, economic, environmental, legal, and other obstacles to increasing the extent to which produced water can be used for irrigation and other purposes; and the legislative, administrative, and other actions that could reduce or eliminate such obstacles. It further requires the Secretary, within existing authorities, and subject to the availability of funds, appropriated for the purpose, to provide financial assistance for at least four demonstration projects. The $4 million authorized for demonstration project grants would be used to develop facilities to demonstrate the feasibility, effectiveness, and safety of the processes to increase the extent produced water may be used for irrigation and other purposes.

BACKGROUND

Development of energy resources, such as oil, natural gas, and coalbed methane, produces water, sometimes in volumes that are difficult and costly to manage. Often the produced water is of such poor quality that subsurface disposal is an essential cost of production. Streams and aquifers can be contaminated by improper handling of produced water or the failure of disposal systems. The major concerns over produced water are potential impacts on soils, water, and the biota that depend on the soil and water. Where produced water quality is unsuitable for irrigation, industrial, or domestic uses, it can be disposed of by deep well injection, evaporation, or after appropriate treatment, percolation or discharge into surface water drainages.

Prior to environmental regulations in the 1970s, produced waters, which are often highly saline (3,000 to more than 350,000 mg/L total dissolved solids) and may contain toxic metals, organic and inorganic components, and naturally occurring radioactive materials, were commonly discharged into streams, creeks, and unlined evaporation ponds, causing salt crusts and surface- and ground-water contamination. These past practices and current accidental releases of produced water are national issues that concern managers of Native American, Federal, and State lands, as well as oil and gas producers, mineral rights and lease owners, State and Federal regulators, and land owners. A growing concern is the potential use of land for farming, housing, or other uses where produced water from oil and gas production has left a legacy of undesirable environmental effects. Even produced waters of low salinity can lead to problems because application of such waters to the land for irrigation or ground water recharge can result in rapid leaching of the naturally occurring salts present in the soil and the unsaturated zone, leading to potential contamination of aquifers and streams.

The USGS has an 80-year history of conducting scientific studies to evaluate and describe the long-term and short-term effects of the disposal of produced water on soils, ground water, streams, and ecosystems. The USGS has also conducted numerous studies to describe the effects of produced-water salts on water and biota, techniques for detecting these effects, and techniques for remediation of soils and ground water.

In 2002, the USGS released a national produced-water geochemistry database that describes the water quality of waters produced from conventional oil and gas fields. This database is an invaluable tool for coalbed methane development companies; land managers; Federal, State, and local water-quality officials; and the public. The information facilitates evaluation of issues pertaining to energy resource development and environmental quality, such as the need for anti-scaling additives, the design of water handling and treatment systems, and disposal and beneficial use options.

The USGS and the U.S. Fish and Wildlife Service are studying the impacts on water quality and the landscape caused by waters associated with coalbed methane production in the Powder River Basin of Wyoming. This research is being conducted as part of the DOI Landscapes Initiative in collaboration with the Department of Energy, U.S. Fish and Wildlife Service, Bureau of Land Management, and others. One component of that project is an examination of hydrology and geochemistry in the vicinity of a produced-water infiltration pond. Early findings are that slightly to moderately saline water infiltrating from the pond dissolved significant quantities of salts present in the soil and unsaturated zone, resulting in a significant increase in total dissolved solids. Although coalbed methane production in the Powder River Basin can provide ecological benefits by increasing stream flows and creating and enhancing wetlands, there are some concerns associated with the levels of contami-

nants in the Basin. Indeed, preliminary findings were dramatic enough to cause a State regulatory agency to order that disposal of produced water at the infiltration pond be stopped and the site be reclaimed.

The USGS, in cooperation with the Osage Nation, Department of Energy, and U.S. Environmental Protection Agency, is investigating the effects of hydrocarbons and produced water (brines) on soil and ground and surface water at two sites adjacent to Skiatook Lake in the southeastern part of the Osage Reservation in northeastern Oklahoma. Results from this investigation will provide information needed by environmental officials, land managers, petroleum companies, and land owners to assess human and ecosystem impacts and to develop risk-based corrective actions to clean up contamination from produced water from oil and gas wells that are no longer active.

Reclamation has extensive expertise and capabilities in water storage and delivery infrastructure planning and design. Reclamation works with the states, BLM, EPA and others in managing produced waters so that the quality of Western water supplies are not degraded by impaired produced waters.

Pilot and demonstration projects like those described in this bill could help provide proof of concept from treatment to beneficial use in key basins where opportunities may exist for converting produced waters to beneficial uses. However, the feasibility and potential value of any demonstration project should be evaluated prior to making any commitments to conduct pilot and demonstration projects. Any such demonstration projects should be well coordinated at the federal, state, and local levels. Other federal agencies with whom Reclamation and USGS would coordinate such demonstration projects include BLM, EPA, and DOE's National Energy Technology Lab (NETL).

CONCERNS

The Department concurs with the goals of the bill to identify impediments to the beneficial use of produced waters. Understanding the opportunities and overcoming the challenges involved in converting produced waters to beneficial uses will help irrigators, farmers, energy producers, and State and Federal agency efforts to increase the development of western energy sources while protecting the quality of our streams and aquifers.

Our concerns with the bill include funding for these activities. The study, report, and pilot activities required by this bill are not currently in the FY2007 operating plans for the USGS or BOR and the FY 2008 President's Budget also does not fund these activities. The activities authorized in this bill should compete with other priority projects for funds.

Additionally, language in Section 3 that directs the Secretary, acting through USGS and BOR, to conduct a study to identify the legal, legislative, and administrative obstacles to increasing the extent to which produced water can be used for irrigation and other purposes. It is not within the purview or expertise of the USGS or BOR to identify legal, legislative, or administrative obstacles.

Another concern is that if the bill becomes law, the accomplishment of the study and report, as proposed in Section 3 of H.R. 902, should be subject to the availability of funds appropriated for that purpose, just as the projects proposed by section 4 are. We anticipate that such a study would focus on existing and potential new technologies for treating produced waters to make them suitable for beneficial uses and would also focus on existing and potential new hydrologic and geochemical models needed to predict the impacts of various management strategies on streams, aquifers, soils and biota.

We wish to note that S. 1116, a companion bill to H.R. 902 which was introduced on April 17, 2007, is very similar to H.R. 902 and that the Administration would have the same concerns about S. 1116 that we have discussed with respect to H.R. 902. We have one other comment on S. 1116. Section 3(a) of the Senate bill includes the Bureau of Land Management (BLM) in the list of agencies within the Department of the Interior that are to carry out the study authorized in this bill. While Reclamation and USGS are working with the BLM to manage produced waters, a study of this nature would appropriately be carried out by Reclamation and USGS. BLM and other Interior agencies, including the Fish and Wildlife Service, would provide assistance as appropriate but should not be listed as leads on the study.

Improved technology and collaboration are among the four key tools proposed as part of Water 2025, an initiative of the Department to meet the water-supply challenges of the future.

Thank you, Mr. Chairman, for the opportunity to present this testimony. I will be pleased to respond to questions you and other Members of the Subcommittee may have.

Senator SALAZAR. Senator Corker, do you have any questions for this panel?

Senator CORKER. We have a number of questions also. I think we'll use the same format that you have and that is to just submit them in writing. Based on the number of bills and the time allowed and the other panelists there's no way that we'd have the opportunity, really, to go through all those.

So, we'll submit them in writing and hope you'll return.

Senator SALAZAR. Senator Thomas.

Senator THOMAS. I'll change the pattern and ask one quick question, if I might, of the Commissioner.

The Governor of Wyoming and the Upper North Platte water users have asked for Federal regulation prohibiting the Bureau of Reclamation from calling on the Wyoming water engineers who regulate water rise upstream of the Pathfinder Dam during irrigation season. Would you support such an amendment?

Mr. JOHNSON. Senator, since that is an amendment it's not appropriate for us to make formal comments. We'd be glad to comment on a specific amendment when it's offered in writing.

I would say that in general, we would be cautious about an amendment that would restrict a water right that it is administered under State law. The Platte River has an interstate agreement. There's a compact. There's a decree and it's administered under State law.

Reclamation always operates under State law for its water rights and we would look to that State law to define the use of the water entitlements.

So as a general rule, I think we'd be reluctant to have that sort of amendment in Federal legislation.

Senator THOMAS. Well, we'll talk about it more later but I think you've indicated or the Department has indicated that they wouldn't plan on calling on that water. So if that's the case then an amendment to that degree couldn't be troublesome to you so we'll talk about it. Thank you, Mr. Chairman.

Senator SALAZAR. Thank you, Senator Thomas. Commissioner Johnson, as head of the Bureau of Reclamation we welcome you once again to the committee and look forward to working with you on all the reclamation issues in the West.

Dr. Hirsh, we appreciate your work in the U.S. Geological Survey, not only on these bills that we have before us today but also on other matters that we're working with you on including legislation that Senator Corker, Senator Bunning and I are sponsoring on carbon sequestration. Thank you very much for being here. We'll move on to the second panel.

As our second panel comes up let me introduce them. From left to right we have Mike Purcell, who is the director of the Wyoming Water Development Commission.

We also have Joe Glode, who is the chairman of the Upper North Valley Water Users Association. The two of them will speak on the Platte River bill.

We also have David Stewart, who will talk about produced water and Nick Tibbetts, who will testify on the Redwood Valley Water District bill.

I welcome each of you to the hearing today.

Mr. Purcell, we'll begin with you and I would ask the witnesses also, if you would keep your remarks, perhaps, to 3 minutes, so we can make sure that we have the opportunity to ask you some questions and we'll finish on time.

Mr. Purcell.

Senator THOMAS. Mr. Chairman, I just want to say, we're very grateful for our two representatives from Wyoming to come this far and to be here to represent us. Thank you very much, gentlemen, for being here.

Senator SALAZAR. And I join Senator Thomas in making that comment. I know how far Wyoming is and Senator Thomas, Senator Enzi and I are often on the same flight back to the West and we appreciate the distance that you've traveled to come here today to present your testimony.

Mr. Purcell.

STATEMENT OF MIKE PURCELL, STATE OF WYOMING

Mr. PURCELL. Thank you, Mr. Chairman. My name is Mike Purcell. I'm Wyoming Governor Freudenthal's representative on the Governance Committee for the Platte River Recovery Implementation Program. I'm presently the chair of that committee.

With us today we have, Ann Bleed, who's the director of the Nebraska Department of Natural Resources, who is representing Nebraska Governor Heineman and Ted Kowalski, program manager for Colorado Water Conservation Board, who's representing Colorado Governor Ritter.

We also have in attendance Dan Ludke, who is a representative to the environmental interest in the long negotiations that led to this program.

All three of them will provide written testimony for your consideration.

I thank you for the opportunity to provide testimony in support of S. 752. Issues related to the endangered birds and critical habitat in the Central Platte River in Nebraska have affected water use and management in the three States since the late 1970's. They have affected the relationship between the States and with the Federal Government.

The Platte River Recovery Implementation Program affords the States the opportunity to address these issues through cooperation, rather than conflict.

The program will allow our water users to implement a simplified consultation process rather than the often acrimonious formal consultations on all of our water related activities.

I would like to point out that the States are, in fact, contributing 50 percent toward this program either in funding or in kind services and I need to point out also that what the States have agreed to do is curtail their water use to 1997 levels. While that does not enter into the mathematics of the 50-50 match, I can assure you, it does affect our water management and our water decisions in the future.

Another important component of S. 752 is the authorization for the Secretary to modify Pathfinder Dam and enter into agreements with the State of Wyoming for the implementation of the project. There are no Federal funds involved in this project. The part of the

partnership is that the State of Wyoming would provide the sum of $8.5 million to implement the project.

The operation of the project was carefully crafted during the settlement of the recent *Nebraska* v. *Wyoming* lawsuit. That settlement was ultimately approved by the U.S. Supreme Court in 2001. The United States and the States of Wyoming, Nebraska and Colorado were parties to those negotiations.

With my written testimony I have attached a copy of Appendix F* to that final relevant stipulation which provides for you the carefully crafted operation we're proposing for that program and I won't go over it today.

In closing I would suggest to you that the Pathfinder Modification Project is very important to Wyoming. There are pieces in it that, it's the manner by which you provide our water contribution to the Platte River Implementation Program and that some of the water is needed for us to comply with the Nebraska v Wyoming lawsuit as well as provide a much needed supplement municipal supply. Therefore it is very important to our long term interest. Mr. Chairman, thank you.

[The prepared statement of Mr. Purcell follows:]

PREPARED STATEMENT OF MIKE PURCELL, STATE OF WYOMING

My name is Mike Purcell. I am Wyoming Governor Dave Freudenthal's representative on the Governance Committee of the Platte River Recovery Implementation Program. Presently, I am serving as Chairman of that Governance Committee. I would like to offer the following thoughts relating to the importance of S. 752 to the Department of Interior, States of Colorado and Nebraska, and, in particular, the State of Wyoming.

The Platte River Recovery Implementation Program and Pathfinder Modification Project enjoy the support of water users in the Platte River Basin in Wyoming, including the irrigators that contract for federal storage water, several municipalities, and others.

I. PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM (PROGRAM)

Issues related to the endangered birds and the critical habitat in the Central Platte River in Nebraska have affected water use and management in the States of Colorado, Nebraska, and Wyoming since the late 1970's. They have affected the relationships between the states and with the federal government. The Platte River Recovery Implementation Program affords the states the opportunity to address these issues through cooperation rather than conflict.

After 14 years, the negotiations have been completed. The Wyoming Legislature has approved the state's Program financial contribution of $6M and Governor Freudenthal and the other signatories have executed the necessary agreements. The Program commenced on January 1, 2007.

The Program will provide the states coverage under the Endangered Species Act (ESA) through simplified consultation processes for existing water related activities and certain specified new water related activities. The states and their water users will not be required to complete contentious ESA consultations on each water related activity requiring federal approvals. Without the Program, proponents of these activities would likely be required to provide funding and water to gain clearance under the ESA.

A. Key Components of the Program

1. A major Program objective is to provide 130,000-150,000 acre feet of water per year to reduce shortages to the Fish and Wildlife target flows in the Central Platte.

2. Another Program objective is to provide and maintain 10,000 acres of habitat in the Central Platte.

3. The monetary budget is approximately $187M for the first increment of the Program. The federal government will provide approximately $157M. To match the federal funding, the three states are making $160M in contributions. These con-

*Appendix F has been retained in subcommittee files.

tributions include: $30M in cash, approximately 3,000 acres of land, and an average of 80,000 acre feet of water per year. Program cash will be dedicated to additional land purchases and restoration, additional water (50,000-70,000 acre feet of water per year), and an adaptive management program.

4. While it does not show up as a contribution to match the federal funding, it should not be overlooked that the states have also agreed to curtail their water use to 1997 levels. Each state has developed a depletions plan which has been approved by the parties that outlines how that state will manage its water to meet this threshold. Implementing these depletions plans will be costly and will affect future water use and management decisions in all three states.

5. The first increment of the Program will be 13 years. Provisions in the Program call for additional increments if needed and if approved by the states and the Department of Interior.

6. An adaptive management scientific approach will be implemented to determine the water and habitat needs of the endangered birds (whooping crane, least tern, and piping plover) in the Central Platte River basin in Nebraska and the pallid sturgeon in the Lower Platte River basin in Nebraska. The states and their water users will have a seat at the table during the development of this information, which will become the best scientific information available for ESA purposes and will become the basis of future consultations.

7. The Program will be implemented by a Governance Committee in which the states and their water users will both have individual members. The Committee will operate on a consensus basis, which will ensure that all views must be addressed.

8. The Program will serve as the reasonable and prudent alternative under the Endangered Species Act for existing water related activities (depletions) that occurred prior to July 1, 1997, the date of the initiation of the Cooperative Agreement which led to the Program, and certain specified new water related activities.

B. Why?

Wyoming, Nebraska, and Colorado became interested in the Program when it became apparent that the ESA provided the U.S. Fish and Wildlife Service the authority to require the replacement of existing depletions until it achieved its water supply goal for the critical habitat in the Central Platte River in Nebraska. Therefore, the three states, the Department of Interior, affected water users, and environmental groups began seeking a cooperative solution in 1993.

Why did the states stay the course during 14 years of negotiations relating to the Program? The state representatives had several meetings and discussions relating to future life without a Program and came to the following conclusions:

1. The Fish and Wildlife Service would be obligated under ESA to undertake separate ESA consultations on the federal reservoirs and other major reservoirs in each state. The likely outcome would be that the operations of those reservoirs that are presently serving our water users would be reconfigured to provide 417,000 acre of feet water for the endangered species and their habitat. The loss of this water would "ripple" through each state's water right system impacting not only the users of the storage water but also all water users in our states.

2. Without the Program, ESA consultations required for future federal actions (permits, including renewals; funding; contracts; easements; and others) would require our water users (irrigators, municipalities, industries and others) to replace existing and proposed new depletions.

3. Prolonged and costly law suits would likely be initiated by each state, or by the states collectively, challenging the ESA and the Fish and Wildlife Service's interpretation of the ESA. Recent case history indicates that unless there is meaningful reform to ESA, investments in such litigation would likely be lost.

II. PATHFINDER MODIFICATION PROJECT

A. Description

The Pathfinder Modification Project is authorized by Appendix F to the Final Settlement Stipulation relating to the *Nebraska* v. *Wyoming* law suit, as approved by the U.S. Supreme Court. A copy of the Stipulation is attached to this written testimony. The Bureau of Reclamation (USBR) has a Wyoming water right to store 1,070,000 acre feet of water in Pathfinder Reservoir for the benefit of the North Platte Project, which includes irrigated land in Eastern Wyoming and Western Nebraska. Over the years, 53,493 acre feet of the storage capacity of the reservoir have been lost to sediment. The project would recapture this storage space. The recaptured space would be administered through two accounts, the "Environmental account" and the "Wyoming account." The operation of these accounts was carefully crafted during the negotiations that lead to the settlement of the *Nebraska* v. *Wyo-*

ming law suit which has been approved by the U.S. Supreme Court in November, 2001. The United States and the States of Colorado, Nebraska, and Wyoming were parties to the negotiations.

An "Environmental account" consisting of 33,493 acre feet of the proposed 53,493 acre foot enlargement will be established and will be operated for the benefit of the endangered species and their habitat in Central Nebraska. The Environmental account is Wyoming's water contribution to the Platte River Recovery Implementation Program (Program) on behalf of all of its water users in the Platte River basin, including the federal government and its major storage facilities in our state and irrigators in Nebraska that rely on storage water from the federal dams in Wyoming.

The State of Wyoming has the exclusive right to contract with the USBR for the use of 20,000 acre feet of the enlargement capacity in a "Wyoming account." The USBR, under contract with Wyoming, will operate the 20,000 acre feet of storage to insure an annual firm yield of 9,600 acre feet. This is the same yield that was anticipated from the proposed Deer Creek Dam and Reservoir. Upon completion of the Pathfinder Modification Project, Wyoming will cancel existing water rights and federal permits pertaining to the Deer Creek Project.

The "Wyoming account" will serve as a much needed supplemental water supply for Wyoming's municipalities during times of water rights regulation. Many of the municipal water supplies along the North Platte River have junior water rights which may be shut off or severely curtailed during water rights regulation. The account will also provide water to meet some of Wyoming's obligations specified in the *Nebraska* v. *Wyoming* settlement agreement and documented in the Modified North Platte Decree.

The modification would be accomplished by raising the elevation of the existing spillway by approximately 2.4 feet with the installation of an ogee crest. The recaptured storage space would store water under the existing 1904 storage right for Pathfinder Reservoir and would enjoy the same entitlements as other uses in the reservoir, with the exception that the recaptured storage space could not place regulatory calls on existing water rights upstream of Pathfinder Reservoir, other than the rights pertaining to Seminoe Reservoir.

The Pathfinder Modification Project is essential to Wyoming in order for the state to meet its obligations under the Program and the Modified North Platte Decree.

B. Status

State authorization to contract with the USBR was approved by the 2006 Wyoming Legislature. The Wyoming Legislature has approved an appropriation of $8.5M to implement the project.

The next critical step is securing Congressional authorization for the Secretary of the Interior to modify the Pathfinder Dam and Reservoir and enter into agreements with the State of Wyoming for the implementation of the project. Upon receipt of this authorization, the following work can be completed:

1. The USBR must obtain a partial change of use for its Wyoming water right for Pathfinder Reservoir from the Wyoming Board of Control for the 53,493 acre feet of Pathfinder storage water from irrigation use to the uses proposed by the Project. The funding approved by the Wyoming Legislature cannot be encumbered until the USBR obtains this partial change of use. This condition was placed on the funding to ensure that those with concerns about the project could express those concerns before a state tribunal before construction could begin.

2. The State of Wyoming and USBR must negotiate a contract to formalize the partnership between the parties.

3. While the final EIS for the Program will serve to address the regional effects of the project, a site-specific NEPA document will be required.

4. Under the PRRIP, Wyoming is obligated to have the Project operational in 2011. However, the WWDC would like to have the project completed as soon as possible as the water is needed to meet the state's obligations under the Modified North Platte Decree.

C. Proposed Amendment

An amendment to Senate Bill 752 and House Resolution 1462 has been proposed on behalf of the Upper North Platte Water Users. The proposed amendment suggests that the Bureau of Reclamation should be restricted from seeking water rights administration (calls for regulation) on behalf of Pathfinder Reservoir during the irrigation season. I would like to offer the following clarifications:

1. The Platte River Recovery Implementation Program (Program) and the Pathfinder Modification Project (Project) will not impact the issue of priority calls on water rights upstream of Pathfinder Reservoir during the irrigation season. This

matter relates to interpretations of the Modified North Platte Decree and Wyoming water law.

2. All calls for regulation must be deemed valid by the Wyoming State Engineer before any water rights administration can occur. The Wyoming State Engineer has advised that a very difficult standard must be overcome for such calls to be honored.

3. The Wyoming Attorney General, upon review of the Modified North Platte Decree, concluded that such calls should not be honored

4. The matter of the effects of the Project on Wyoming water users will be brought before the Wyoming Board of Control during its hearings on the Bureau of Reclamation's petitions for the partial change of use to the storage water right for Pathfinder Reservoir. The Upper North Platte Water Users will be afforded the opportunity to present their views and evidence to this state tribunal and state statutes ensure that the project cannot be constructed until the opportunities for any resulting appeals have been exhausted.

5. Please refer to Section 1 of the attached copy of Appendix F to the Final Settlement Stipulation which states in part: "The recaptured storage space would store water under the existing 1904 storage right for Pathfinder Reservoir and would enjoy the same entitlements as other uses in the reservoir with the exception that the *recaptured storage space could not place regulatory calls on the existing water rights upstream of Pathfinder Reservoir other than the rights pertaining to Seminoe Reservoir."* (Emphases added.) The Upper North Platte Water Users are located upstream of Pathfinder Reservoir.

Senator SALAZAR. Thank you, Mr. Purcell. I'd like to note that the subcommittee has received the written testimony on several bills before us today. That written testimony, as well as other written submissions of all the witnesses before us, will be made part of the official record of this committee hearing.

Mr. Glode.

STATEMENT OF JOE GLODE, CHAIRMAN, UPPER NORTH PLATTE VALLEY WATER USERS ASSOCIATION

Mr. GLODE. Thank you, Senator. My name's Joe Glode. I'm the president of the Upper North Platte Valley Water Users Association, representing the appropriators of Wyoming Water above Pathfinder Reservoir to the Colorado border.

Moving along in 3 minutes, I'd just simply like to say that we do not oppose the North Platte Recovery Implementation Program.

However, we do oppose, S. 752 in its current form. In that we feel that that bill, as currently written, has the potential to injure us greatly in the administration of Wyoming water law.

One of the things that we've heard here recently is the fact that the Federal Government is reluctant to ask for an amendment here before you today because it may or may not affect Wyoming water law. We see that as having nothing to do with Wyoming water law.

We're simply asking you, in your Federal purview to direct Federal employees to place and I quote, "To protect the existing upstream water rights in Wyoming, the Bureau of Reclamation shall not place a priority call for Pathfinder Reservoir, including the proposed Pathfinder Modification Project between May 1 and September 30 in any given year."

Although this amendment will not completely remove our injury because most of the injury that's referred to in the environmental impact statement refers to allocation years which are a part of the modified decree which Mr. Purcell referred to.

What we're primarily concerned about is post May 1 administration. Now in Appendix F of the modified decree the calculations for allocation years run into July. There's no contemplation of cutting

off those allocation years on the first of May and we feel that we are at great risk to being called, after May 1.

The original North Platte Decree of 1945 stated that priority administration for Pathfinder against the upper valley was not necessary or appropriate.

The Wyoming Attorney General has issued a statement saying that such a call should not be honored by the state engineer. The state engineer has said, he probably would not honor such a call and the environmental impact statement actually says that it is so unlikely that such a call would be made that they never even considered it in the impacts of the environment impacts statement, then why not?

As Senator Thomas said why don't we give it the force of law instead of the administrative interpretations that we have.

I thank you for the time.

[The prepared statement of Mr. Glode follows:]

PREPARED STATEMENT OF JOE GLODE, CHAIRMAN, UPPER NORTH PLATTE VALLEY WATER USERS ASSOCIATION

The Upper North Platte Valley Water Users Association ("UNPVWUA") is an organization of ranchers and irrigators who utilize the waters of the Upper North Platte River. Our members divert water from the North Platte and its tributaries in Wyoming in the area between the Colorado/Wyoming state line downstream to Pathfinder Reservoir. Our members own both direct flow and storage water rights with priority dates both junior and senior to the 1904 priority for Pathfinder Reservoir. The UNPVWUA was originally formed in 1989 as a reaction to the first call for administration of the 1904 priority for Pathfinder Reservoir. Up until that time, the occurrence of such administration was considered highly unlikely.

The UNPVWA opposes Senate Bill 752 in its current form. The proposed expansion of Pathfinder Reservoir with the Pathfinder Modification Project ("PMP") that is authorized in Senate Bill 752 will cause injury to water rights held by UNPVWA members, and irreparable harm to the natural resources and economy of the Upper North Platte River basin.

As proposed, the PMP will enlarge the capacity of Pathfinder Reservoir by 54,000 acre-feet, and will also add new uses for Pathfinder Reservoir water. This new capacity and the new uses will not be administered under a new, junior water right priority as one would expect, but will instead be given a 1904 priority date. Pathfinder's December 6, 1904 priority is senior to 1091 of the 1596 Water Right in the Upper North Platte Basin. This attempt to expand both the size and the authorized uses of the original 1904 water right violates the fundamental principle of Western water law that senior water rights cannot be expanded or changed to the injury of junior users. *See e.g., Basin Electric Power Cooperative* v. *Wyoming State Board of Control,* 578 P.2d 557 (Wyo. 1978). As the burden of this enlargement will be borne by the holders of junior water rights in the Upper North Platte River basin, it also represents a taking of the vested property rights that our members have in the junior water rights that will be diminished by the expansion and change. See Tulare Lake Basin Water Storage District v. United States, 49 Fed. CI, 313, 319 (2001).

The taking issue is addressed in greater detail in the March 20, 2007 letter from our attorney to the Wyoming Congressional delegation that I am submitting as Exhibit A to this written testimony. The letters attached as Exhibits B and C to this written testimony document in greater detail the potential injury arising from the PMP and the administration of the Platte River Recovery Implementation Program ("PRRIP").

The supposed call protection in the PMP does not prevent injury to upstream junior users. By its terms, that protection does not extend to Seminoe Reservoir. See Modified Decree, App. F. The increased call against Seminoe that will result from the expansion under the PMP will mean less water for Seminoe, and Seminoe in turn will place a greater demand under its priority against junior water rights. Moreover, the call protection supposedly offered under the PMP as explained in Appendix F to the Modified Decree is absent and not considered in the actual formula for determining an "allocation year" in Appendix E of the Modified Decree.

Even the Final Environmental Impact Statement ("FEIS") for the PRRIP documents the injury to the Upper North Platte Basin from the PRRIP. The UNPVWUA

feels the FEIS grossly understates the injury from the PMP and PRRIP, because, among other reasons, it uses a study period that ends in 1994, and does not even consider the most relevant data from the past 12 years when drought has increased, and allocation years and overall demands have all increased. The FEIS also fails to consider Nebraska's expansion of irrigation during this recent period. Although issues concerning the FEIS deficiencies were raised to officials responsible for preparation of the FEIS, they were largely ignored.

Moreover, the FEIS fails to even consider the devastating impacts on water resources when the Pathfinder 1904 right is administered after May 1. In this regard, it is important to direct you again to Appendix F of the final Modified Decree which addresses the PMP. It mandates that the Bureau of Reclamation cannot proceed with the PMP until it has been appropriately considered under the National Environmental Policy Act. As the impacts of a post-May 1 call were not even considered in the FEIS, such a call cannot be part of the approved PRRIP program.

The foregoing concerns demonstrate the need to place appropriate limits on Pathfinder Reservoir. The UNPVWA views this proposed legislation as just such an opportunity. To prevent further and future injury, we respectfully ask that you consider adding the following language at the end of Section 202 of the current bill:

> To protect existing upstream water rights in Wyoming, the Bureau of Reclamation shall not place a priority call for Pathfinder Reservoir, including the proposed Pathfinder Modification Project, between May 1st and September 30th in any year.

Although this amendment would not completely remove injury in the Upper Basin, it will address the most serious threat. The basis for May 1 call protection is explained in the March 20, 2007 letter that is attached as Exhibit A. As noted therein:

- The United States never intended that Pathfinder would fill in the irrigation season against upstream junior users.
- The original North Platte Decree of 1945 declined to require strict priority administration for Pathfinder as against the Upper North Platte Basin.
- There is a Wyoming Attorney General's Opinion stating the Wyoming State Engineer should not honor a post May call for any component of the Pathfinder Reservoir.
- There is a Wyoming State Engineer letter stating he would probably not honor an irrigation season call by Pathfinder.
- As explained above, the language in the FEIS states that post May 1 administration on behalf of Pathfinder's 1904 priority date is highly unlikely, so unlikely, the impacts of such a call were never considered in the EIS.
- Governor Freudenthal issued a letter requesting the Wyoming delegation's assistance in imposing a May 1st Call Restriction on Pathfinder.

Finally, we ask you to consider the basic equity of what is going on here. The FEIS shows no correlation between water uses in the Upper Basin and deficiencies in the target recovery area in Nebraska. The Supreme Court and the Special Master in the various Nebraska v. Wyoming lawsuits have similarly recognized that there is little or no real hydrologic connection between water use above Pathfinder Reservoir in Wyoming and water shortage in the critical area in Nebraska. Nevertheless, by way of the PMP, it is proposed that irrigators and other water users above Pathfinder be asked to bear the burden of solving a problem they have not created. The UNPVWA asks that you give serious consideration to the amendment it proposes, and bring some small measure of equity 10 those who rely on the waters of the Upper North Platte River.

I thank the respected members of this Committee for the opportunity to present our comments.

Senator SALAZAR. Thank you very much, Mr. Glode.

Dr. Stewart.

STATEMENT OF DR. DAVID R. STEWART, PROFESSIONAL ENGINEER

Dr. STEWART. Today I am here to talk about produced water. I'm a professional engineer from Colorado and have over 30 years in water treatment.

Why are we talking about produced water? There's 22 billion barrels of produced water generated every year. That's about 2.3 or 2.8 million acre feet of water.

The cost of water along the Colorado front range has increased dramatically. It now ranges about $20,000 an acre foot. In the Western United States it goes anywhere from $5,000 to $35,000 an acre foot. So, there's a huge cost associated with that.

Why hasn't this worked before? Energy companies talk in barrels, water users talk in acre feet. So we've got a communication problem for one. The others are the fluctuating oil prices, uncertainties with water supply.

The beauty of produced water is that it's drought proof. It comes up every year whether you want it to or not. It comes up with the oil or the coal bed methane projects and so there's a beauty to that water from that standpoint.

You have private industry verses public agencies and the private companies don't want to take the risk associated with environmental issues associated with that water, but the benefits are that it is new water. It's water that doesn't come to the surface naturally so it adds water to the basin, which is crucial in the West. We need more water.

It reduces energy because you don't have to re-inject it. 30 percent of the energy that we use when it comes to the surface, we use 30 percent of it to put that water back in the ground. We should use that water as a resource.

There is more research that's needed. We need both more oil, more energy and we need more water and so the Bureau and USGS are in a perfect position to do that research. We need to enhance that water recovery.

I have an example of this in Colorado, the Wellington Waterworks Project, up in northern Colorado. We're the first plant to utilize, to produce water for beneficial use.

The only plant in the United States that does that today and that beneficial use is providing the town of Wellington with the water supply. It increases their water supply by 300 percent, so it's very beneficial to the area and yet the oil company is now realizing an asset that was a waste to them before.

So, one of the things that we want to do with this water is we want to turn that prominent waste product into an asset. All it takes is treatment to do it. We need to enhance that.

I would suggest that we support S. 1116 and H.R. 902. Thank you very much.

[The prepared statement of Dr. Stewart follows:]

PREPARED STATEMENT OF DR. DAVID R. STEWART, PROFESSIONAL ENGINEER

I am David R. Stewart, a Colorado Registered Professional Engineer. I have worked for over thirty (30) years as an Engineer for various industrial and commercial companies in the western US. My experience includes the design and operation of water reuse and reclamation facilities, design of advanced treatment technologies, and development of a production water treatment system for augmentation of tributary water in Colorado. I hold several patents and patent pending applications in this area of water reuse and reclamation.

BACKGROUND

In 2003, Interior Secretary Norton announced a new Federal initiative to assist communities in addressing chronic water shortages in the West. In this initiative,

areas where shortages are most likely were identified. To a large extent, these areas coincide with the states that produce oil and natural gas. The top producing states are Colorado, Texas, Louisiana, Alaska, Oklahoma, and California.

In 2002, 2.1 billion barrels of oil and 196 trillion cubic feet of natural gas were produced in the United States (API). These activities resulted in nearly 22 billion barrels of produced water or 2.84 million acre feet per year. Produced water is water, generally mineralized, brought to the surface with oil and gas.

PRODUCED WATER REMAINS A LARGELY UNTAPPED WATER RESOURCE

Despite individual efforts by the oil and gas industry to beneficially reuse produced water, and an increasing trend toward reuse and recycling, by far the most common method of disposal is subsurface injection. This disposal method is very costly and treats water as a liability rather than an asset. There appears to be several reasons why previous reuse efforts have had limited success, including:

- Unfamiliarity of the oil and gas industry with the intricacies of water marketing.
- Uncertainties related to the duration of the produced water supply.
- Fluctuating oil and gas prices and the resulting fluctuation in the willingness to make capital investments in recycling technology.
- Wide differences between the desire for rapid development of recycling by private industry, once a "go" decision has been made, and the slow pace of development for public water infrastructure.
- The relatively poor source water quality of produced water and the need for extensive treatment.
- Risks associated with environmental and public exposure to treated produced water.
- The relatively low value placed on water, particularly in relation to the high value of oil and gas.
- Focus of time and capital by the oil industry on their core business—finding oil.
- Clean Water Act limits the discharge of produced water to surface water in the West.

In short, although there are significant technical, economic, environmental, and legal barriers to produced water development, the primary barriers are the institutional and communication differences between the private oil and gas industry and the publicly dominated water industry.

BENEFITS OF PRODUCED WATER DEVELOPMENT

Despite the barriers to development of produced water, the benefits are substantial and are both economic and technical.

The economic benefits of produced water treatment include:

- Adding a new water resource to the shrinking number of water resources available in the water-short West.
- Water is becoming an increasingly valuable commodity that is both transportable and in demand. Along the front range of Colorado, the cost of an acre foot of water has reached $20,000 for the Perpetual or annual right to divert an acre foot of water. This is significantly higher than the value of this same right in California, which is approximately $5,000 per acre foot. However, there are instances in the western U.S. where an acre foot of water is valued at $35,000 per acre foot.
- Dramatically reduce the volume of produced water injected into disposal wells and eliminate this as a cost of producing oil and gas. This will reduce the energy loss due to this operation by as much as 20 percent.
- Minimize the cost and risk of the environmental impact of producing oil and gas by dramatically reducing the total use of chemicals in the recovery and treating process.
- Make better use of natural and financial resources by lowering the cost of environmental compliance.
- Reduce the demand for surface water resources by domestic and industrial users, which conflict with the maintenance of endangered species and wild rivers.
- Reduce some or all of the costs associated with the underground disposal of produced water including maintenance, acidizing, drilling new disposal wells, regulatory and administrative activities.

The technical benefits of produced water treatment include:

- Improve the efficiency of thermal oil recovery by decreasing the amount of steam required to heat the water along with the oil in the reservoir.
- Reduce the potential for reservoir damage by disposal injection.
- Reduce the recirculation of injected water into the oil producing horizons.
- Lower the energy demand for oil field operations through reduced water production and handling.

PRODUCED WATER RECOVERY WILL INCREASE DOMESTIC OIL PRODUCTION

In many oilfields, injected produced water flows to producing areas and increases the water content of recovered oil. For example, in the San Ardo Oilfield in California where produced water is reinjected, the water cut was less than 1 percent in the 1940s, but now is nearly 95 percent. Thus, water removal is the key to increasing production. If the reservoir could be dewatered, an estimated 150 million barrels of additional oil could be developed from this oilfield alone.

In reservoirs with thermally enhanced recovery, produced water reuse will also reduce heat requirements. By increasing the steam quality, the amount of steam required can be substantially reduced. Because these heat requirements represent a significant cost and recoverable oil reserves are based on production economies, more oil may be recoverable from existing oilfields.

EXAMPLES OF PRODUCTION WATER PROJECTS

There are two examples of production water projects that have been or are nearing completion. The first project is near Wellington, Colorado. This project is treating oil production water as a new water resource. This new water resource will be used to augment shallow water aquifers to prevent injury to senior water users. The oil company is embarking on this project to increase oil production. A separate company will then purchase and utilize this water as an augmentation water source. This water will eventually be used to allow the Town of Wellington and northern Colorado water users to increase their drinking water supplies significantly. In this example, the Town of Wellington can increase their water supply by 300 percent due to this new water source.

Another example of the beneficial use of production water is the San Ardo field near Monterey California. Research of this production water system is being conducted by Kennedy/Jenks Consultants of San Francisco, California. This oil field is currently utilizing 50,000 barrels per day for steam, but has over 100,000 barrels per day of water available for beneficial reuse. The end users of this water could be agriculture, groundwater recharge for salt barrier intrusion and environmental reclamation.

A third example would be the coal bed methane production waters that are being developed in the west. These waters need to be removed in order to develop the resource of the coal bed methane. This is a difficult water to dispose of due to the mineral content of the water. Technologies have been developed to treat this water, but the beneficial use of this water has not been researched or developed. Potential uses of this water are for municipal augmentation of a new water resource, industrial and agricultural interests as well as environmental enhancement through the creation of wetlands and in-stream flows.

A NEED FOR PRODUCED WATER RESEARCH

I believe that there is a real need for production water research. Presently, there is a lack of information on the amount of effort required to produce this water. I have been working on this effort in Colorado for over 5 years. Most of this time was spent obtaining regulatory approvals and working on the legal aspects of our project. I believe that the United States Bureau of Reclamation in conjunction with the United States Geological Survey is in the best position to provide this research. The USBR is the one agency that has a significant amount of technology information on desalting of brackish waters and is an agency that currently has access to the end users. The USGS is an agency that understands how this water can be utilized and what water quality constraints might be required of the technology developed. In addition, there will be a need to prove to the energy industry that these technologies are feasible and will assist in the development of these new energy resources.

As S. 1116 and H.R. 910 states, there is a need for a collaborative effort to identify the obstacles in the development of this water resource and to provide research and demonstration plants to implement this in the future. This is a role of our government and will allow for the future use of this resource.

Senator SALAZAR. Thank you very much, Dr. Stewart.

Mr. Tibbetts.

STATEMENT OF NICHOLAS R. TIBBETTS, REDWOOD VALLEY COUNTY WATER DISTRICT

Mr. TIBBETTS. Mr. Chairman, members of the committee, thank you for the opportunity to testify. I'm Nicholas Tibbetts, representing the Redwood Valley County Water District in rural Mendocino County.

We support S. 1112 and its companion H.R. 235, which will permit the district to develop a water supply and achieve the revenues that will allow it to repay two Federal loans.

In 1975 and 1983, the district built water supply facilities using two Bureau of Reclamation loans totaling $7,313 million.

The district supplies water for agricultural and residential purposes and covers an area for about 3,800 people. Unfortunately right from the outset, it became apparent that the district could not depend on its water source and in fact had no firm supply or water right.

This was known to the Bureau at the time the loans were made. Since 1988, a perfect storm of adversity has prevented the district from repaying its loans. Because of the endangered species act, water supplies in the Russian River, upon which the district depends, averted in order to protect salmon and steel head runs.

Second, a California court in 1989 imposed an injunction against the district prohibiting it from adding new customers and increasing its rate, pay or base. That moratorium is still in effect today.

Third, the local flood control district that supplies water for Redwood has suggested the district might be wise to look elsewhere for water. The district has identified three potential sources of a firm supply of water. It will borrow non-Federal funds to build new facilities.

In order to do so, however, it must subordinate the existing two loans to the new non-Federal funding. This legislation permits this subordination and will enable the district to build facilities that will repay new financing and the existing two Federal loans, this not a loan forgiveness but rather a forbearance that will result in the repayment of those loans. Thank you.

[The prepared statement of Mr. Tibbetts follows:]

PREPARED STATEMENT OF NICHOLAS R. TIBBETTS, REDWOOD VALLEY COUNTY WATER DISTRICT

Mr. Chairman, Members of the Committee, I am Nicholas Tibbetts testifying on behalf of the Redwood Valley County Water District. I appreciate the opportunity to address you in support of S. 1112 and H.R. 235 which will allow for the renegotiation of the payment schedule of contracts between the Secretary of the Interior and the Redwood Valley County Water District.

The legislation before you enables the Redwood Valley County Water District (District or Redwood Valley) to reschedule the payment of its two Small Reclamation Projects loans to the United States. The legislation allows Redwood Valley to enter into financial obligations as are necessary to finance the procurement of dedicated water rights and improvements necessary to store and convey those rights to provide for the District's water needs. In short, it means that Redwood Valley will be able to financially pursue and construct a firm and reliable water supply that it has never had since its inception over 30 years ago. The following testimony will explain why this legislative relief is so critical to the residents and farmers of Redwood Valley.

Redwood Valley is located five miles north of Ukiah, California in Mendocino County. It is largely rural with a significant element of small agricultural operations

most notably vineyards. The Redwood Valley County Water District was formed as a California Special District in January, 1964, to provide a reliable water supply for the 1100 residents and farmers of Redwood Valley. The. District built an $8.5 million water system project. The project was funded with a $1.2 million local share and two Small Reclamation Projects Act loans totaling $7.3 million.

In the early 1970's the Redwood Valley County Water District commissioned studies and analyses by a reputable engineering firm. The studies recommended constructing and operating a water supply system which was to be a dual distribution system for irrigation and domestic water service. The studies included engineering, cost analysis and loan repayment capabilities. The analysis concluded that the project was economically feasible. Further, it was reasonably anticipated that the loans could be repaid from income derived from the sale of water. The Bureau of Reclamation (Bureau) concurred that the project was feasible.

In 1975 the Redwood Valley voters approved the project and a $4,800,000 loan to build it. Construction commenced in 1977. Funds were insufficient to complete it. The District, nonetheless, went into operation in 1979 with 95 percent of its domestic system and 50 percent of its irrigation system in service.

The Bureau of Reclamation recommended that the District assume a second Small Reclamation Projects Act loan to complete the project. This supplemental loan of $2,513,000 was approved by the voters in 1980, and the system was completed in 1983. The two loans were to be repaid in 35 annual installments.

In the 1970's when the Redwood Valley County Water District was being formed and financing agreements were being negotiated with the Bureau of Reclamation, it was known that the District did not have a firm and reliable water supply. It did not have a summertime water right to Russian River water or to Lake Mendocino water, nor did it possess a firm and reliable water supply from any other source. Redwood Valley negotiated with its neighbor, Russian River Flood Control District (RRFCD or Flood Control), for water from Flood Control's 8000 AF water right to Lake Mendocino. The water ticketed from the 8000 AF was understood to be excess or surplus to the needs of Flood Control. The negotiations culminated in a legal settlement in Superior Court in 1980 resulting in the Redwood Valley County Water District securing excess or surplus water from Flood Control's 8000 AF water right.

EMERGING FINANCIAL DIFFICULTIES

In 1983 Redwood Valley made its first and only loan payment of $58,000 against the principal to the Bureau of Reclamation. Shortly thereafter it became apparent that repayment projections generated by Redwood Valley's engineering consultant, and concurred in by the Bureau of Reclamation, did not come close to meeting either the actual costs of operation or the actual revenues generated from the water sales. District studies conducted at that time concluded that domestic water sales were 75% of initial projections, and agricultural (irrigation) water sales were 11% of initial projections. Redwood Valley embarked upon a program to raise water rates to generate the necessary revenues to meet its operational and loan repayment obligations. Since the 1980's rates have been raised six times—the most recent two years ago. In the 1980's and today Redwood Valley County Water District's rates are in the top tier of water rates in Mendocino County.

In the mid 1980's the Redwood Valley and the Bureau of Reclamation engaged in numerous exchanges over the District's inability to make the scheduled loan payments. Redwood Valley requested that payments be suspended until water sales could carry the annual debt load. The Bureau refused, indicating that any debt postponement or suspension needed congressional authorization.

GOVERNMENT INTERVENTION—LOAN SUSPENSION AND CONNECTION MORATORIUM

In October 1988 Congress passed P.L. 100-516 suspending Redwood Valley County Water District's loan repayment obligation until a renegotiated schedule of payment takes effect. Currently, the District is in the 19th year of the loan suspension. P.L. 100-516 suspended payments on principal, interest, and eliminated any accrued penalty interest associated with the two loans.

In 1989 Redwood Valley was dealt a lethal blow to its ability to repay its Small Reclamation Projects Act loans. The Mendocino County Superior Court imposed a moratorium on domestic water service connections. This connection moratorium prohibits the District from making any new domestic service connections to its water system. This moratorium is still in effect 18 years later.

In 1998 the Redwood Valley County Water District sought "moratorium relief" from the California Legislature. The District sought legislation which would set aside the 1989 Superior Court decision. Instead of legislatively setting aside the moratorium, the legislature passed SB 1432 which allowed Redwood Valley to add

a limited number of connections based on a demonstrated hardship. In the last nine years there have been a total of 60 such connections.

The legislature in passing the limited relief recognized that the blanket moratorium on connections for domestic water service was onerous, not simply to the District, but to Redwood Valley's residents. Further, the legislature recognized that the District had over the years made unsuccessful, but good faith attempts, to find a firm and reliable water source.

GOVERNMENT INTERVENTION CONTINUED—ENDANGERED SPECIES ACT AND FERC

The area wide water source for Redwood Valley and the neighboring Ukiah Valley is the Russian River and its depository Lake Mendocino. Lake Mendocino is largely dependent upon water diversions emanating from the Eel River. In 1996, 1998, 1999 the United States government declared Salmon and Steelhead inhabiting California's northern coastal rivers, including the Russian River and the Eel River, as threatened species under the Endangered Species Act (ESA).

Lake Mendocino is the source of Russian River Flood Control's 8000 acre feet water right. It has been the water supply source for the Redwood Valley County Water District since 1979. Most of Lake Mendocino's water is diverted from the Eel River. The diverted water originates in neighboring Lake County and passes through a Pacific Gas and Electric Company power generation facility before cascading through an underground water tunnel into the Russian River in Mendocino County on its way to Lake Mendocino.

Water users in the Ukiah Valley, including Redwood Valley, are dependent upon the continued diversion of Eel River water to the East Fork of the Russian River since this represents the only reliable source of summertime flow in the Russian River. The loss or reduction of this source of supply will have a significant impact upon the reliability of water supplies in Mendocino County and northern Sonoma County.

In January, 2004, the Federal Energy Regulatory Commission (FERC) issued a decision which further threatens Redwood Valley's future water supply and its dependence upon Lake Mendocino and Russian River Flood Control. FERC determined that more water should stay in the Eel River and less diverted south to the Russian River. This decision ostensibly brought to an end a six decade long disagreement over the impacts of diverting Eel River water south to Sonoma and Mendocino counties. FERC concluded that cutting diversions by 15% should benefit three species of threatened fish protected by the ESA.

In 2007 the National Marine Fisheries Service announced an error in the above 15% reduction in Eel River diversions south to Mendocino County, New calculations concluded that the Eel River diversions should be cut by 33% and not 15% as determined in 2004.

Officials in Sonoma and Mendocino counties believe the dramatically reduced diversions will harm farmers and city residents in their counties. FERC's decision puts tremendous pressure on water supply available to Lake Mendocino which is the depository of water for the Russian River Flood Control District and consequently for the Redwood Valley County Water District.

TODAY—VULNERABLE TO RUNNING OUT OF WATER

The California State Water Resources Control Board (SWRCB) has declared the Russian River to be fully appropriated each year during the months of June through October. The only new water rights being considered by the SWRCB are those diversions of winter/spring flood flows which can be stored off stream for later summertime use.

In 1999 the Russian River Flood Control District reported to the SWRCB that it diverted 8049 AF to its constituent users (including 1704 AF to the Redwood Valley). The diversion exceeded Flood Control's 8000 AF appropriative water right. The 1999 flood Control numbers suggest that the Redwood Valley County Water District's "surplus water" supply is entering an era of diminishing returns.

It is increasingly clear that Redwood Valley enters the 21st century facing a fragile water supply future. In December, 2001, the Flood Control District in Resolution No. 1-83 informed the Redwood Valley County Water District that Flood Control no longer had surplus water to sell Redwood Valley. In December, 2002, Flood Control again noticed the Redwood Valley County Water District that it had no surplus water to sell. On April 1, 2007, Flood Control notified Redwood Valley "to plan for potential shortages later this year."

The California Department of Health Services in April, 2002, in its "Drinking Water Adequacy Assessment" for the Ukiah Valley concluded the following:

> The Redwood Valley District continues to lack an adequate and reliable source of supply during the critical months of June through October and has to rely upon an interruptible supply (surplus water) from the RR District (Flood Control).

The report goes on to state:

> Given that the RR District is currently exceeding its water rights limit, which does include surplus water sold to Redwood Valley, the amount of surplus water available for Redwood Valley can be expected to decline each year as authorized users (six area public water systems) of the RR District's increase their demand on water.

The report notes that, "Of the seven public water systems receiving RR District (Flood Control) water only the Redwood Valley County Water District is without a legally firm and reliable water supply."

The District since its creation has been aware of its vulnerability in not having a reliable water supply predicated on a firm water right. In 1974 and in 1992 the District conducted extensive investigations of potential water reservoir sites. All potential sites came with legal and or development problems of some sort and all were expensive. In anticipation of a restricted water supply future the Redwood Valley County Water District implemented a water conservation program.

TOMORROW—SECURING RELIABLE WATER

In a letter to its ratepayers in 2001 Redwood Valley indicated that it had conducted water storage site surveys in the past and again was taking another look at that option. The District pointed out to its customers that all potential sites were expensive to develop. Redwood Valley notified the Bureau of Reclamation of its interest in pursuing such a project. Redwood Valley informed the Bureau that if a future water supply project were necessary for the District to maintain a viable water system, then the District would not be in a position to make payments to the Bureau of Reclamation on its two Small Reclamation Projects Act loans.

In January, 2002, Redwood Valley engaged a water resource development company to assist it in finding and securing a firm and reliable water supply and water right. The effort identified three potential projects.

The first diverts water in the wintertime and stores it for summertime use. The project costs range from $100 million to $150 million. Redwood Valley applied to the State Water Resources Control Board (SWRCB) for a water right permit for 52,000 AF for storage and for 4,000 AF of diversion annually. The Redwood Valley County Water District has ruled this potential project as financially infeasible.

The second potential project captures 5600 AF at an estimated cost of $10 million. Redwood Valley applied to the SWRCB in 2002, for a water right permit on this project. The third potential project implements the same practice of diverting water in the wintertime for storage and use in the summertime. The project is for 17,000 AF and has an estimated cost of $10 million.

THE BUREAU OF RECLAMATION AND THE PROBLEM

The Bureau of Reclamation in an August 2000 Draft Report on the Redwood Valley County Water District recognized the source of the District's financial problems when it wrote the following:

> The District has been unable to meet its financial obligation . . . due to:
>
> 1) Lack of buildup in demand for both M&I (domestic) and agricultural (irrigation) water service as initially projected in the loan application reports.
>
> 2) . . . Redwood Valley CWD (District) has an agreement with the Improvement District (Flood Control) which allows them to use water from the Lake (Mendocino) but they are last in line behind Sonoma and (Flood Control). Because of this uncertainty, Redwood Valley CWD's water supply is not considered a dependable firm supply.
>
> 3) Some of the District's (Redwood Valley) customers filed a lawsuit in the California Superior Court for a writ of mandate (connection moratorium) prohibiting the District from increasing its number of M&I (domestic) customers. The District has been working towards firming up their water supply and meet the requirements necessary to get the writ of mandate (connection moratorium) lifted, however, at present the District is still prohibited from adding new M&I (domestic) customers. This severely limit's the District's ability to increase the M&I revenue to make repayment on the P.L. 84-984 loan obligation.

The Bureau of Reclamation concludes, "Reclamation recognizes that a firm water supply is paramount for a complete solution to the District's current financial dilemma."

The Bureau, writing in 2000, believed that the Redwood Valley County Water District's water supply problem could be solved by it becoming geographically part of the Flood Control District. The merger was intended to qualify Redwood Valley as a "firm water" customer instead of a "surplus water" one using Flood Control's 8000 AF.

That idea did not come to fruition in part because of potential legal conflicts, and more importantly as noted earlier, Flood Control was already reaching and breaching its 8000 AF water right limit. Flood Control announced in 2001 and 2002 that it did not have surplus water to sell to Redwood Valley. If that were true, then Flood Control might have believed in 2000 that it did not have water to sell to Redwood Valley as a "firm water" customer.

The Bureau of Reclamation did not mention in its 2000 report that Redwood Valley's future water supply became increasingly threatened when another federal agency, National Marine Fisheries, listed salmon and steelhead in the Eel River and Russian River as threatened under the Endangered Species Act. That federal action prompted the Federal Energy Regulatory Commission (FERC) to announce in 2004, a 15% cut in water diverted from the Eel River into the Russian River and to Lake Mendocino. In 2007 the National Marine Fisheries Service increased that reduction to 33%.

THE SOLUTION

The Bureau of Reclamation is correct when it recognizes that "a firm water supply is paramount for a complete solution to Redwood Valley's current financial dilemma." Unfortunately there is no quick fix. There is no free fix. The Redwood Valley County District is and has been for years actively searching for a new firm and reliable water supply source. The current evidence suggests that the cost of a water project which will provide future firm water will range between $10 million and $100 million.

The evidence is becoming crystal clear that the Redwood Valley's water supply trend line is moving away from having an adequate water supply—firm or surplus. The District needs to commit its financial resources to finding, securing and building a water supply source which is firm and reliable. Not only will it take money and lots of it, it will require taking on new debt. Redwood Valley cannot take on new debt, comparable in size or larger than its existing debt. This is especially true with an existing loan obligation to the United States that is and has been inoperable since the day it was incurred. The District cannot seek new debt financing with a $7.3 million bad debt on its books.

Passage of S. 1112 and/or H.R. 235 is critical to Redwood Valley's ability to find and finance a firm water supply and to maintain a viable water system. These bills will enable Redwood Valley to commit future revenues to pay for projects which will secure water for its present and future customers.

When that happens, the judicially imposed moratorium on revenue producing domestic water service connections can be lifted. That will enable Redwood Valley to escape its Catch 22 circumstance. The District needs a judicially approved firm and reliable water supply which will enable the District to add additional domestic service (MU) customers. The ability to add new domestic customers becomes a source for new revenues which is necessary if the District is to finally achieve long term financial stability. Financial stability is essential if the District is to meet its mission of providing safe, firm, reliable and affordable water for its customers in Redwood Valley.

S. 1112 and H.R. 235 enable Redwood Valley to reschedule the payment of its two Small Reclamation Projects loans to the United States. This legislation will allow Redwood Valley to enter into financial obligations as are necessary to finance the procurement of dedicated water rights and improvements necessary to store and convey a firm and reliable water supply for Redwood Valley's families, farms and businesses. This ultimately will make it possible for Redwood Valley and its ratepayers to pay their original loan obligations to the United States.

On behalf of the Redwood Valley County Water District—its Board of Directors and its ratepayers, I respectfully request that your committee recommend the passage of S. 1112 and/or H.R. 235. Thank you very much for your time and attention to this request.

Senator SALAZAR. Thank you very much, Mr. Tibbetts. I'll just take a few minutes and ask a couple of questions. Mr. Purcell and

Mr. Glode, with respect to S. 752, it seems we have a conflict going on here in Wyoming.

Mr. Purcell, your point of view is that we do not need an amendment to essentially protect the upstream water users from a call.

Mr. Glode, you believe that we do need an amendment that essentially sets forth what is already a part of the decrees that were entered into the settlement that was agreed to by the U.S. Supreme Court.

So, which is it? Where is Wyoming on this? Are the Governor and you, Mr. Purcell, in a different position than Mr. Glode and the water users that he represents? Is there a way in which we can resolve this issue?

Mr. PURCELL. Mr. Chairman, I hope so. I would contend that this is a matter that is best left to the parties' interpretation of the Modified North Platte Decree and Wyoming Water law. We've respected this body's actions in the past, which has deferred such issues as this to our law and to the modified decree and to those who interpret it.

Senator SALAZAR. Mr. Glode, why would you say that isn't sufficient then, to simply defer to State law and to the modified Supreme Court decree, if the language already addresses the issue, why is that that you believe the amendment is necessary?

Mr. GLODE. First of all, Senator, the Wyoming Water law, the 1904 appropriation in Pathfinder is a water right in good standing and we feel that it's only a matter of time, given the fact that there's another 150,000 give or take acre foot requirement on an already over appropriated river. It's only going to be a matter of time before the Federal Government comes in and asks for the enforcement of Wyoming Water law.

What we're asking for here is, not, for you to interfere in Wyoming Water law in any way shape or form. We're simply asking, you're asking for additional 54 thousand acre foot of water to be placed in storage in that reservoir.

We're asking for protection from that. We're asking for you to limit your Federal asset. We're not asking for anything to do with Wyoming Water law, whatsoever, at this particular point.

What's been resisted up to this point is that the State engineer and the State of Wyoming have refused the ability to limit the powers of the State engineer and we're not asking to limit the power of the State engineer. We could see where that could be a problem for you to ask them to do that, but we're asking for you is to limit your own Federal agency and their ability to place a call.

Senator SALAZAR. I will turn over to my colleagues for additional questions given the remaining time.

Senator Corker.

Senator CORKER. I'll go ahead and let Senator Thomas. I know that he's got a more specific interest in this.

Senator SALAZAR. Senator Thomas.

Senator THOMAS. Thank you. I want to follow up on that. I think that what we're seeking to do, as I understand it, that your recommendation has indicated, that they're not likely to increase that demand during the season. However, there's no assurance that that's necessarily going to be the case. We want it to be the case and therefore we're simply saying that that increase be called on

and for the lake, it would not happen during this period of time and to ensure that's right.

And so, Mr. Purcell, why is that a problem if we put that into the law, that that increase would be at the, what is it, 125 or whatever during that period of time.

Mr. PURCELL. Mr. Chairman, Senator Thomas, I think it's the request of the Upper North Platte Water Users, there's a little more than that. There's already language in the stipulation of the modified decree that says the 54 thousand acre foot of the recaptured space.

Now understand, this is an existing water right held by the Federal Government for a million seventy thousand acre foot. We're just reactivating 54,000 acre foot of space of that and we have said in the stipulation that that 54,000 acre foot cannot place calls on the upper basin. What is being asked of you is that the entire million seventy cannot place a call during the irrigation season.

My Governor has written to you requesting that this amendment be approved. Personally, we've worked very hard to get the Federal Government to comply with our laws on water related issues.

Senator SALAZAR. Let me ask, if I may, just a question on that. Governor Freudenthal supports the amendment? Mr. Glode is here in support of the amendment and yet, Mr. Purcell, you're here testifying that the amendment is not necessary and isn't welcome to be part of the legislation.

So where's the State of Wyoming with respect to the proposed amendment that Mr. Glode and his concerned user district are proposing today.

Mr. PURCELL. Governor Freudenthal, a year ago, asked the delegation to support an amendment similar to this. My issue is, I don't want this amendment to affect the Pathfinder Modification Project in this potential authorization.

To me, that is the key. We need this project very badly to meet our obligations to both the program and to provide water that we have promised under the settlement, as well as to supplement some very junior water rights.

Senator THOMAS. But the Bureau of Reclamation has indicated they're not going to do that. All we're doing is assuring that what they say will happen, will happen.

Mr. PURCELL. And if you think that, Mr. Chairman, Senator Thomas, and if you think that's appropriate, so be it.

Senator THOMAS. Well, I do, obviously. Would you like to respond, Mr. Glode, to Mr. Purcell's comment?

Mr. GLODE. No, I think the information speaks for itself. I just see that the risk is there and we're simply asking for the force of law for what everybody thinks is fairly ours to begin with. We're just simply asking for what everybody says we have already. I don't see it as being controversial either.

Senator THOMAS. I agree. Thank you.

Senator SALAZAR. Senator Corker.

Senator CORKER. No.

Senator SALAZAR. Dr. Stewart, in the project that you referred to, which is already online in Wellington, Colorado, where you are saving some of this produced water. How long will that occur? How

much water is available from a project that's already functioning in the way that we contemplate under this legislation?

Dr. STEWART. That's an oil project and so that has life of about 500 years.

Senator SALAZAR. About 500 years?

Dr. STEWART. Yes.

Senator SALAZAR. So the water supply from essentially the mining of this water will be available for a period of nearly five centuries?

Dr. STEWART. Yes.

Senator SALAZAR. And Mr. Tibbetts, to you, it seems clear that a firm water supply is the foundation of the Redwood Valley to establish a water system at a rate base that will help solve its financial problems.

Has the district done a sufficient analysis of its alternatives to warrant the conclusion that it is feasible to implement a project that will provide a revenue stream adequate to repay the new loans and its outstanding obligations to the Bureau of Reclamations.

Mr. TIBBETTS. The stage of its analysis, Senator, is that they've identified three sources, potential sources. Any one of the three would work for Redwood Valley. Two of those sources have taken to the State water board a request to provide for water right and that issue is pending and it's not clear, quite frankly, how soon there will be an action taken on that.

What would be needed in both cases, essentially, is an ability to divert water in the winter high flow season, send it off stream, impound it and then transmit it through with a pipe up the valley to Redwood Valley.

It is estimated and it's only an estimate at this time, that that project would probably run $7 million to $10 million.

Senator SALAZAR. Thank you very much. Are there any other questions of this panel from either of my colleague Senators?

Senator Corker.

Senator CORKER. Since we do have a few moments before the vote, I'd love to understand from Dr. Stewart, exactly what the process is of reusing produced water in the method that we're talking about.

Dr. STEWART. There are a bunch of different processes. That's why I think it's important for the Bureau to be involved because they can help develop that tool box, but in Wellington, for example, we bring that water to the surface. We separate it in a knock out tank. We remove the wall head gases. We allow the water to come to the surface and remove any residual oils. Then we send it through a walnut shell filter, a ceramic micro filter activated carbon and discharge it.

But when the water leaves, it has no alter organics. It has no metals associated with it. It can be used on ag land or for augmentation is what we use it for.

We're involved in another project, CBM project, where we're doing treatment there and that has only sodium as the issue. So we remove the sodium to lower the sodium absorption ratio for ag land reuse and in that particular case, the Wellington case we generate about 150 acre feet per year.

In the CBM project, we generate about 10,000 acre feet per year. So that's the difference. The CBM projects, coal bed methane projects, are very high volume but they only last 20 to 30 years. The oil projects are low volume but they last hundreds of years.

Senator SALAZAR. Let me ask, Senator Corker, I'm sorry.

Senator CORKER. No, go ahead.

Senator SALAZAR. I was going to ask one more question of Mr. Purcell on S. 752 relating to the Platte River Recovery Program. That's a program that I have been involved with for longer than I care to think about and as I see Dan Ludke and you, Mr. Purcell and others in the audience, I remember when we first held the meeting in Denver back in 1990 or 1991, to get that program off the ground.

What would be the consequence to the program if S. 752 is not adopted?

Mr. PURCELL. Mr. Chairman, in essence, without the money, you can't do the work. It provides the authorization to access $157 million of Federal funds of which we're matching; the States are matching, with watered land and of course, dollars.

But the primary components of the program are acquiring additional lands for restoration, acquiring additional water. The States are contributing 80,000 acre foot of water per year. We'd like another 50 to 70,000 acre foot of water per year.

Plus, we're involved in what's called a Scientific Adaptive Management Program, which is going to judge how the habitat reacts to additional water and our other improvements to the habitat.

So, in essence, we have a lot of work to do and the funding is required, Mr. Chairman.

Senator SALAZAR. So, S. 752 is very essential for the program on the South Platte River Recovery Effort to continue and to succeed.

Mr. PURCELL. Yes, Mr. Chairman, very much so.

Senator SALAZAR. Well, with that I want to thank all of the witnesses. The legislation that we've covered in today's hearing is set out in the joint staff memoranda of April 25, 2007. We have no additional questions for the witnesses.

I want to thank each of you for your willingness to testify today and for those of you who traveled to our Nation's capital today, I want to thank each of you very much for the information of Senators and their staffs and those of you who are interested in any of the bills before us today.

Any questions for the record will be due by the close of business tomorrow, and with that, the hour of 3 o'clock having come and gone, know that this meeting is adjourned. Thank you very much.

[Whereupon, at 3 p.m., the hearing was adjourned.]

APPENDIXES

APPENDIX I

Responses to Additional Questions

RESPONSES OF MR. GLODE TO QUESTIONS FROM SENATOR SALAZAR

Question 1. If the modified North Platte Decree and Wyoming State law, as interpreted by the State Engineer and the Attorney General, prohibit Reclamation from placing a call on upstream water users during the irrigation season, why is an amendment needed?

Answer. 1. Neither Formal Opinion No. 2004-001 nor previous Wyoming State Engineer opinions prohibit the Bureau of Reclamation from placing a call on upstream water users during the irrigation season. Rather, they opine that the State Engineer probably would not honor such a call, and that refusing to honor a post-May 1 call would be the proper course. The 2005 letter from the Wyoming State Engineer that we sent with our earlier materials states: "[I]n my opinion, a Wyoming State Engineer cannot say he will never honor a call for regulation for Pathfinder Reservoir from May 1 to September 30 in each year." See September 30, 2005 letter by Patrick T. Tyrrell, p. 4. Although Mr. Tyrrell also stated that it would be difficult to conceive of circumstances leading to his office honoring such a call, there are no guarantees, absent the legislation we have proposed, that such a post-May 1 call would not be made and honored.

2. There is no guarantee that the Wyoming Supreme Court, or the U.S. Supreme Court, will agree with the conclusions made in Formal Opinion No. 2004-001. Even if the State Engineer were to follow the Opinion and refuse to honor a post-May 1 call for regulation, he may be forced to do so if a judicial challenge is made to that decision.

3. Mr. Tyrrell serves at the pleasure of the Wyoming Governor. Given Governor Freudenthal's recent withdrawal of his previous support for legislation limiting the Bureau of Reclamation's ability to place a post-May 1 call, there are no guarantees that the current Engineer or his successor will not similarly change position concerning whether to honor a post-May 1 call.

4. Throughout the entire Final Environmental Impact Statement ("FEIS") for the Platte River Recovery Implementation Program ("PRRIP") there is no clear indication of where the water for the PRRIP would come from. This left some uncertainty about which water rights will be limited as a result of the PRRIP. Following the Governor's dramatic reversal, it is now crystal clear that Wyoming's contribution will be borne by irrigators above Pathfinder Reservoir. Indeed, despite the many assurances we have had to the contrary, we note that the Modified North Platte Decree contemplates calculating an allocation year by including months all the way into July. Modified Decree, App. E. Accordingly, despite all the promises, a post-May 1 call has been contemplated, and only by way of the amendment we seek will protection be provided.

5. The amendment we have endorsed will leave room for compromise regarding future implementation of the PRRIP, and can only hasten implementation of the program. Without the amendment, the possibilities for compromise diminish significantly. We will be forced to challenge the PMP and PRRIP by all legal means.

6. The amendment we suggest is fully consistent with Wyoming law and is consistent with the primacy of state water law. Indeed, it is the current proposal for the PMP that is not consistent with Wyoming law, as it would create a new federal water right, for new environmental uses in Nebraska; yet would have a 1904 priority date. There is certainly nothing in Wyoming water law that recognize such a

right. Our proposal would at least mitigate the injury to upstream, junior water rights that will be cause by the PRRIP and the PMP.

7. By way of the amendment, the United States could not place a post-May 1 call. In so doing, the Wyoming State Engineer would not have to decide whether to honor any call. The United States would be treated like any other state water right owner who has agreed to limit a water right to prevent injury from a proposed change.

8. Formal Opinion No 2004-001 only applies to calls from Pathfinder Reservoir, and specifically does not apply to the additional storage proposed to be created by the Pathfinder Modification Project ("PMP"). See Formal Opinion No. 2004-001, p. 2. Pursuant to the Nebraska v. Wyoming settlement and the modified North Platte Decree, the Bureau of Reclamation cannot call against upstream junior water rights with the exception of those stored in Seminoe Reservoir. The Formal Opinion does not address the impact of a rebound call when the 1931 Seminoe water right calls for regulation of upstream rights. When calls are made against Seminoe Reservoir due to the Pathfinder Reservoir 1904 right, and Seminoe places a subsequent call, the impact will be effectively the same as if Pathfinder had made a call against all upstream water rights.

The amendment will provide some measure of relief to the irrigators in the Upper North Platte River basin, while at the same time allowing the funding mechanisms for the PMP to move forward without significant delay.

Question 2. Isn't it more appropriate to raise this issue before the Wyoming Board of Control when Reclamation petitions the Board for a change in its storage permit for Pathfinder Reservoir.

Answer. 1. Only the federal government can agree to the voluntary restrictions the Upper North Platte Water Users have suggested by way of the proposed amendment to Senate Bill 752.

2. Action by the federal government in implementing the PMP is a matter of federal law, including issues concerning the taking of vested property rights. *See Tulare Lake Basin Water Storage District v. United States,* 49 Fed. Cl. 313, 319 (2001). These issues cannot be addressed before the Board of Control.

3. If post-May 1 call protection is provided as an amendment to Senate Bill 752, there will be no need to raise the issue before the Board of Control. It only makes sense to deal with the issue of post-May 1 call protection in Congress, which has the ultimate authority for United States property and to bind the Bureau of Reclamation.

4. Congress is also the appropriate body to consider the equities involved in the impact of the PMP. As we have previously noted, (1) the FEIS shows no correlation between water uses in the Upper North Platte River Basin and water shortages in the Nebraska recovery area, and (2) the Supreme Court and the Special Master in the *Nebraska* v. *Wyoming* lawsuit recognized that there is little or no hydrologic connection between water use above Pathfinder Reservoir in Wyoming and water shortage in the Nebraska recovery area. Yet, the Upper Basin water users are asked to bear the brunt of the PMP impacts. This inequity may not be given the weight it deserves by the Board of Control. It is up to Congress.

5. The shortcomings of the FEIS are also properly before Congress as the Board of Control cannot remedy its deficiencies. As we have noted, Appendix F of the final Modified Decree mandates that the Bureau of Reclamation cannot proceed with the PMP until it has been appropriately considered under the National Environmental Policy Act. As the impacts of a post-May 1 call were not even considered in the FEIS, such a call cannot be part of the approved PRRIP program.

6. The North Platte River is already overappropriated. There is simply no additional water available for storage in Pathfinder Reservoir, and no new water will be created by way of the PMP. In addition, the environmental and municipal accounts contemplated for the PMP will store water on an equal priority basis with all other users of the Reservoir. This becomes an additional demand for the full, unrestricted 1.016 million acre-feet of existing storage capacity in the Reservoir. Irrigators in the Upper North Platte River basin are asked to give up their water rights for both the PRRIP and municipalities.

Congress, and specifically the Water and Power and Power Subcommittee, is the appropriate forum to provide the relief necessary for the water users in the Upper North Platte River Basin. Amending Senate Bill 752 now with the language proposed in our previous comments will achieve that very end and lessen the chance for future disputes on the PMP implementation.

We thank you again for the opportunity to comment on Senate Bill 752, for your questions on the appropriate mechanism to provide post-May 1 call protection, and for your interest in the Upper North Platte River Basin.

RESPONSES OF DR. HIRSCH TO QUESTIONS FROM SENATOR SALAZAR

Question 1. S. 324 (Domenici/Bingaman)—According to your testimony on S. 324, USGS is conducting a pilot project on approaches to a national assessment of water resources.

What are you evaluating in the pilot project and how might it apply elsewhere to address the need identified in S. 324?

Answer. The National Water Availability and Use Program—a pilot effort that is part of the USGS Ground Water Resources Program line item is intended to provide citizens, communities, and natural-resource managers with a clearer knowledge of the status of the Nation's water resources (how much water we have now), trends over recent decades in water availability and use (how water availability is changing), and an improved ability to forecast the availability of water for future economic and environmental uses. This pilot effort includes a study in the Great Lakes Basin and a small effort in the Lower Colorado River Basin. The pilot is helping determine the best ways to evaluate the resource and how to deliver the information in a manner that is most helpful to planners and policymakers working at local, regional, and national levels. The program is based on concepts presented in the report, Concepts for National Assessment of Water Availability and Use (http://water.usgs.gov/pubs/circ/circ1223/), which was produced at the request of the House Appropriations Committee. It could be expanded to include other major aquifers in the United States.

Question 2. S. 1116 (Salazar) & H.R. 902—Your testimony notes that USGS and Reclamation have sufficient authority to carry-out the activities in the produced water bills.

My question is: Are you actually carrying out any such activities? You described USGS's activities with respect to assessing the impact of produced water contamination on the landscape. Are you doing anything right now to look at cleaning up and using produced water?

Answer. The USGS has conducted some preliminary compilations of the volumes and quality of produced water presently being generated in selected areas by oil and gas activities from existing conventional and coalbed methane producing wells. The volume is important because it has impact on whether the water available justifies the development of an infrastructure to use the water. The quality is important because the more varied the contaminant types and higher the concentrations, the more expensive the cleanup. This information may allow some understanding of the availability of produced water in producing areas and the costs that may be associated with cleaning up waters for reuse in those areas.

In 2006, the USGS patented a general solar distillation loop process that accepts saltwater, wastewater, brine, mine water, etc. This low-energy process accelerates distillation of impaired water to produce distilled water and hyper-concentrated brine (which is dried for disposal). Current research with a local public water agency in San Diego County is looking for options for disposal of a high-copper discharge from their reverse osmosis stream. The goal of this three-year project is to treat all discharge leaving the plant, returning the solar distillate to the water production plant, and disposing the high-copper precipitate into a landfill.

Question 3. In your testimony, you say that USGS and Bureau of Reclamation do not have the expertise "to identify the legal, legislative, or administrative obstacles" to the use of produced waters. Which agency or agencies do you believe possess this expertise?

Answer. The potential legal, legislative, and administrative obstacles to using produced waters are many and varied and may include such things as water-quality restrictions for proposed uses; land-use restrictions; habitat alteration for threatened and endangered species; rights-of-way issues for water pipelines; liability issues for harm due to improper or incomplete treatment of water to remove contaminants; unanticipated or unintended environmental consequences of use and resultant liability; and water-rights issues. The States and tribes play major roles in the regulation of water supply and quality and thus should play a significant role in such an evaluation. This task might best be accomplished through involvement of a State-based organization such as the Western States Water Council. Also, a consortium of State Water Resources Research Institutes may be able to provide such an analysis given their interdisciplinary nature, including their expertise in legal matters. The presentations and the affiliations of the participants in the April 2006 produced water beneficial use conference held in Ft. Collins, Colorado, and hosted by the Colorado Water Resources Research Institute provides information on the interested parties and the extent of the issues of concern. The issues raised are primarily regulatory. Neither the USGS nor the Bureau of Reclamation is a regulatory agency.

RESPONSES OF DR. HIRSCH TO QUESTIONS FROM SENATOR DOMENICI

REGARDING S. 324

Dr. Hirsch, New Mexico has limited potable ground water supplies. However, it has vast supplies of brackish water. Many communities in the state are exploring the possibility of desalinating brackish ground water. However, very little is understood about this resource.

Question 1. What role do you believe the USGS should have in characterizing brackish water aquifers in order to more fully understand and make use of this resource?

Answer. The USGS carries out many studies of ground-water systems, including fresh and saline resources. Roles of the USGS include (1) better definition of the distribution of saline ground-water resources and their chemical characteristics; (2) development of methods and predictions of the effects of saline-water extraction on the environment and connected hydrologic systems; and (3) hydrogeologic and chemical studies to support proper disposal of waste products.

My understanding is that the Interior Department often conducts water resource studies, including aquifer characterization. In New Mexico, there is very little information available on the size and recharge capabilities of the state's aquifers.

Question 1. If this bill is enacted, what will the Department do to characterize these aquifers?

Answer. The New Mexico Office of the State Engineer has recognized 40 Underground Water Basins in New Mexico for the purpose of administering ground-water resources. In many cases, multiple aquifers comprise those administrative groundwater basins. One would first need to prioritize these basins/aquifers and evaluate ongoing or recent studies to characterize their geologic framework and ground-water resources. Depending on the issues and availability of information, ground-water assessments for individual systems would require 3 to 6 years and studies may require drilling, testing, and monitoring of observation wells; investigations of groundwater-flow paths, recharge, and discharge; and conceptual model testing prior to development of ground-water-flow models. These studies would be subject to available appropriations.

Question 2. What do you believe would be an appropriate non-Federal cost share for a study of this kind?

Answer. A minimum 50 percent non-Federal match for any Federal resources would seem to be appropriate for the work proposed by the bill.

Question 3. What types of assistance, in addition to what is authorized in this bill do you believe USGS could offer the state to more fully understand its water resources?

Answer. The USGS conducts the extensive ground-water and surface-water data collection and investigations in conjunction with State and local partners through the Cooperative Water Program. National programs such as the National Streamflow Information Program (NSIP), Ground-Water Resources Program, and National Water-Quality Assessment (NAWQA) Program provide fundamental monitoring data and interpretive analyses. USGS technical specialists also actively participate on key work groups and committees addressing critical New Mexico water issues. Any assistance offered by the USGS would be subject to available appropriations.

RESPONSES OF DR. HIRSCH TO QUESTIONS FROM SENATOR CORKER

REGARDING H.R. 902

Question 1. If a good solution were developed and demonstrated to increase the extent produced water may be used for irrigation and other purposes, what is the potential economic value/savings of doing that?

Answer. We have not done such an analysis.

Question 2. You state that "it is not within your purview to identify the legal, legislative, and administrative obstacles to increasing the extent to which produced water can be used for irrigation. Who should conduct this analysis? Should USGS and Reclamation still be consulted during the analysis?

Answer. The USGS and Bureau of Reclamation may be able to provide data and interpretation that might be useful to those conducting such an analysis. The potential legal, legislative, and administrative obstacles to using produced waters are many and varied and may include such things as water-quality restrictions for proposed uses; land-use restrictions; habitat alteration for threatened and endangered species; rights-of-way issues for water pipelines; liability issues for harm due to improper or incomplete treatment of water to remove contaminants; unanticipated or

unintended environmental consequences of use and resultant liability; and water-rights issues. The States and tribes play major roles in the regulation of water supply and quality and thus should play a significant role in such an evaluation. This task might best be accomplished through involvement of a State-based organization such as the Western States Water Council. Also, a consortium of State Water Resources Research Institutes may be able to provide such an analysis given their interdisciplinary nature, including their expertise in legal matters. The presentations and the affiliations of the participants in the April 2006 produced water beneficial use conference held in Ft. Collins, Colorado, and hosted by the Colorado Water Resources Research Institute provides information on the interested parties and the extent of the issues of concern. The issues raised are primarily regulatory. Neither the USGS nor the Bureau of Reclamation is a regulatory agency.

RESPONSES OF MR. JOHNSON TO QUESTIONS FROM SENATOR SALAZAR

S. 175 (Inhofe)—It's my understanding that Reclamation completed an Appraisal Report on Central Oklahoma water supply alternatives in August 2005.

Question 1. Isn't the Appraisal Report the prerequisite for moving forward with a Feasibility Study? Why is a plan of study now needed, and how long will it take to develop?

Answer. Yes, an Appraisal Report is a prerequisite for the Feasibility Study, If a Feasibility Study is warranted, Reclamation normally initiates a draft Plan of Study as part of an Appraisal Report. The circumstances of finalizing the Appraisal Report did not allow Reclamation to include the draft Plan of Study, so the Plan of Study was initiated after completion of the Appraisal Report. The purpose of the Plan of Study is to develop specific scopes of work and cost estimates associated with performing a Feasibility Study. This provides the basis for which draft cost-sharing agreements can be developed and facilitates implementation of a Feasibility Study when or if Congress provides the necessary authorization. The draft Plan of Study is complete.

S. 542 Craig—Your testimony refers to a Boise/Payette Water Storage Assessment Report that was completed in July 2006, and indicates that the Report is the foundation for future feasibility studies to address water shortages in Idaho.

Question 2. What is the range of alternatives identified in the Assessment Report? Are those alternatives limited to surface water storage options? If so, what types of issues do you anticipate evaluating in the feasibility studies?

Answer. The Boise/Payette Assessment Study only looked at surface water storage options it as acknowledged in the process that a comprehensive water supply program would be necessary in the Boise basin to meet future water needs. This may include water conservation and other water management measures. The Assessment Study identified "areas oil opportunity" that showed high hydrology potential with relatively low social/environmental impacts. However, alternatives have not yet been formulated. Evaluation of physical site constraints and formulation of alternatives will be developed at the Appraisal or Feasibility study level.

A Feasibility level study will identify and evaluate social, environmental, and economic issues specific to each site in accordance with NEPA and the "Principles and Guidelines" for the evaluation of potential water development projects. Some of the areas of opportunity identified in the Assessment Study were within ESA listed hull trout migration corridors. As such, passage and mitigation issues would likely be significant at those sites. Other areas may also have significant benefits, such as enhanced flood control along the Boise River. Alternatives will also be evaluated in terms of their potential to affect flow augmentation for Columbia River ESA listed salmon.

S. 752 (Nelson/Salazar . . .)—You note in your statement that S. 752 will help ensure compliance with the Endangered Species Act (ESA) and the protection of existing and future water uses.

Question 3. Can you explain a little more the basis for that statement? If the Platte River Recovers Program were not implemented, with its habitat restoration goals and consensus-based process to acquire water for ESA needs, what would be the implications for Colorado, Wyoming, and Nebraska?

Answer. A collaborative, basin-wide approach to resolving the endangered species issues is the best way to ensure that the current water use can continue and new uses can proceed in compliance with the ESA while providing for the needs of the species. Trying to address ESA requirements separately for each of the hundreds of Federal and private water projects in the Platte Basin would be vastly more expensive, provide less certainty for water users, and be less effective for the species.

A collaborative effort among the States and water users in the basin allows for a more equitable distribution of effort than might occur under individual project ESA consultations. Without a cooperative approach and coordination between the States' administrations of water, many projects will literally compete for both land and water to improve habitat in order to meet their ESA obligations, Past experience has demonstrated that the likelihood of litigation between water users and between the States would also increase without a cooperative effort.

S. 752—Based on the testimony to be given on the 2 panel, there appears to be disagreement on whether the Pathfinder Modification Project will impact the water rights of the Upper North Platte Valley Water Users in Wyoming. Specifically, there is concern that an expanded Pathfinder Reservoir will either (1) place priority calls on the Upper North Platte Water Users during the irrigation season, or (2) place priority calls on Seminoe Reservoir, which through a domino effect will result in calls being placed on the Upper North Platte folks.

Question 4. Reclamation is supporting the Pathfinder Modification Project. Have you analyzed the situation? If so, are there risks to the water supply of the Upper North Platte water users? Would Reclamation support an amendment that limits its right to place a priority call for the Pathfinder Modification Project?

Answer. Reclamation does not take formal positions on potential amendments. However, an amendment of this nature could: 1) greatly diminish Reclamation's entire 1,070,000 AF of 1904 senior water right by limiting the ability of Reclamation to request priority administration to adequately protect the water supply for Reclamation contractors in Wyoming and Nebraska; 2) potentially affect the apportionment of North Platte River between Wyoming and Nebraska as set forth in the North Platte decree; and 3) set a precedent of federally legislating State water law.

We believe that the program under the legislation as currently written and the 2001 Amended Stipulation to the North Platte Decree between the States and the Federal Government provides for protection of water rights through a state water law process. We are not likely to support amendments that undermine the water rights of Reclamation's project beneficiaries downstream of Pathfinder Dam.

Question 5. Would the amendment proposed by the Upper North Platte Valley Water Users Association be contrary to the amended stipulation between the State of Nebraska, the State of Wyoming, and the State of Colorado entered in 2001 by the Supreme Court or contrary to Wyoming State water law?

Answer. Yes, the potential amendment is contrary to the Amended Stipulation because it addresses the entire Reclamation Pathfinder 1904 water right of 1,070,000 AF rather than the Pathfinder Modification which recovers 54,000 AF of storage. Limiting the water right with regard to the Pathfinder modification (54,000 An has been addressed in the 2001 Amended Stipulation between the States and the Federal Government. Appendix F of the stipulation with regard to the 54,000 AF of storage space states ". . . the recaptured storage space could not place regulatory calls on existing water rights upstream of Pathfinder Reservoir other than the rights pertaining to Seminoe Reservoir."

Question 6. What is the nature of the 54,000 acre feet of storage space that would be gained by the Pathfinder Modification proposal? Does this reclaimed storage space constitute a new water right or an existing water right that dates back to the original 1904 water right associated with Pathfinder Reservoir?

Answer. The Pathfinder modification project would restore 54,000 AF of storage space lost to sediment in Pathfinder reservoir. The recaptured storage space would store water in the Reclamation's existing 1,070,000 AF 1904 storage right for Pathfinder reservoir to be administered per the 2001 Amended Stipulation as agreed to by the States and the Federal Government. Thus, it would be part of the existing water right.

S. 1037 (Smith/Wyden)—Your statement on S. 1037 is a little confusing. First, you express concern that the Tumalo Irrigation District is not associated with a Reclamation project, and that the Department is concerned that funding a non-Reclamation project would adversely impact Reclamation's core projects. You then state that the Tumalo water conservation project may be ideally suited for Reclamation's Water 2025 Program.

Question 7. Is Water 2025 siphoning off funds from Reclamation's core projects? If not, what benefits is Water 2025 producing with respect to existing Reclamation projects? From Reclamation's perspective, will the Tumalo Irrigation District water conservation project advance any federal interest?

Answer. The President's FY 2008 budget request funds the Water 2025 Program to achieve the overarching goal of preventing crises and conflict over water before they occur, especially in the areas of the west where we can predict problems. The FY 2008 proposal for Water 2025 represents a balance of getting ahead of crises while not detracting from the needs of Reclamation projects. Water 2025 uses a com-

petitive process to award grants focused on stretching existing supplies through innovation, technology and market based solutions. In evaluating applications for grants, one of the ranking criteria used is whether the request involves a Reclamation. project. However, this is not the sole criteria. Consideration is also given to factors such as benefits to ESA listed species and the accomplishment of other federal interests. The proposed Tumalo Irrigation District Water Conservation Project appears to be a candidate for a Water 2025 grant because it would help restore instream flows to the middle Deschutes River, benefiting downstream ESA-listed fish. However, it would he subject to the program's competitive evaluation criteria and funding levels.

S. 1112 (Feinstein & H.R. 235—While you are not supporting H.R. 235, it sounds as though you could with some modifications to its text.

Question 8. Can you provide for the record, legislative language that would implement your suggestions on the deferment legislation?

Answer. The Department and Reclamation recognize that a firm and reliable water supply is likely necessary for a. complete solution to the District's current financial dilemma related to repayment of these two loans. Such legislation should include a date certain for repayment of Reclamation loans to begin or to be completed. Extending out the payment dates and not charging interest until repayment begins serves to devalue the loan.

RESPONSES OF MR. JOHNSON TO QUESTIONS FROM SENATOR CORKER

REGARDING S. 175

Question 9. Commissioner Johnson, in your testimony regarding S. 175, you state that the one-year time frame for the study authorized in the bill is "insufficient for a thorough evaluation of alternatives." What would be a sufficient time frame?

Answer. Three years would be sufficient to complete a thorough investigation of the alternatives.

Question 10. If the time were lengthened, would the Administration consider supporting the bill, or are there other concerns that would need to be addressed in order to gain that support?

Answer. In addition to an insufficient time frame, the department believes that $300,000 would not be sufficient to meet the Federal cost share of 50 percent. The Federal cost of the study is now estimated at $850,000 (federal share only) based on results of the draft Plan of Study for meeting the future water demands of the cities currently served by the Central Oklahoma Master Conservancy District. The Administration's support of the bill would be determined at the time when the bill is introduced and reviewed in its entirety. However, this project is not in BOR's budget and will have to compete with other funding priorities.

Since the April 25 Subcommittee hearing, S. 175 has been reported from Committee with amendment on 5/23/07. The legislation now specifies a three-year window to conduct the specified study. The bill authorizes an appropriation of $900,000. It also specifies that Federal costs may not exceed 50 percent of the study's total cost. The legislation allows DOI to accept in-kind services to count toward the non-Federal portion of the project's costs.

REGARDING S. 1037

Question 11. You have stated that the Department does not support S. 1037 and that the Tumalo Irrigation District and the facilities in question are not part of a Reclamation project. Has Reclamation worked on any project like this in the past or a project that Reclamation would have originally considered non Reclamation?

Answer. Reclamation has been directed by Congress in the past to work on non-Reclamation projects. However, limited budgets require Reclamation to focus Federal funding on existing Reclamation programs and on the significant water management challenges facing existing Reclamation projects and irrigation districts. The Water 2025 program also allows Reclamation to assist in funding non-Reclamation projects on a competitive basis. A recent example is the collaborative conservation project involving Tumalo and Swaney Irrigation districts, both non-Reclamation projects.

RESPONSES OF MR. PURCELL TO QUESTIONS FROM SENATOR SALAZAR

Question 1. S. 752 (Mike Purcell—Wyoming Water Development Commission)—Your testimony indicates that negotiations on the Platte River program took 14 years to complete.

How was ESA compliance and ongoing water use maintained during that time? Will this legislation add more stability and certainty to the situation?

Answer. During the negotiations, the U.S. Fish and Wildlife Service (USFWS) was completing interim consultations, whereby the water users were required to provide offsetting measures. If the water users were seeking federal clearances for new water related activities that would deplete 25 acre feet or more, the offsetting measures were to replace the new depletions and provide funding for habitat. If the water users were seeking federal clearances for existing water related activities, the offsetting measures were annual depletion fees. The annual average depletions resulting from the existing water related activities were applied to formulas which determined the total annual fees required for each project. The formulas were based on achieving 417,000 acre feet of water per year and 29,000 acres of habitat. The fees were provided to the National Fish and Wildlife Foundation and were used to acquire land and water.

The interim consultations documented that if there was no Platte River Recovery Implementation Program (Program), the water users would be required to re-consult with the USFWS. The likely result of these re-consultations would be that all of the water users would be required to replace depletions and provide funds for habitat until the USFWS achieved 417,000 acre feet of water per year and 29,000 acres of habitat, rather than the 150,000 acre feet of water per year and 10,000 acres of habitat to be provided under the Program.

The Program will serve as the reasonable and prudent alternative for specified new water related activities and all existing water related activities. Those water users whose activities are covered by the Program will not be required to provide water and pay the annual depletion fees and will not be subjected to complex and often contentious consultations. There will be an abbreviated consultation process in which the states will be involved through their respective depletions plans. The purpose of this long-winded response is to assure that the legislation will certainly add stability and certainty for the states and their water users.

Question 2. S. 752 (Mike Purcell)—Your testimony seems to indicate that the amendment proposed by the Upper North Platte Water Users is unnecessary because the Bureau of Reclamation is precluded from the placing an upstream call by the modified North Platte Decree and Wyoming state law.

Is my description of your testimony correct?

Answer. The modified North Platte Decree does not preclude the Bureau of Reclamation from placing an upstream call for water rights administration for the benefit of Pathfinder Reservoir. In an effort to address concerns expressed by Mr. Glode and the Upper North Platte Water Users, Wyoming Governor Dave Freudenthal requested the Wyoming Attorney General to address this matter. The Wyoming Attorney General issued an opinion that the Wyoming State Engineer should not legally recognize such a call by the Bureau. The opinion was based on the Attorney General's review of the modified North Platte Decree and Wyoming water law.

Question 2a. Mr. Glode's testimony, though, cites a letter from Governor Freudenthal that requests the Wyoming delegation to impose a legal restriction on Reclamation's ability to place an upstream call. Do the Wyoming Water Development Commission and other proponents of the Program oppose the amendment? If so, what's the basis for the objection?

Answer. Attached is copy of a letter, dated May 4, 2007, from Dave Freudenthal, Governor of Wyoming, to the Wyoming delegation. This letter explains the Governor's letter of March 15, 2005 to the Wyoming delegation and clarifies the state's position related to the proposed amendment. In his closing, Governor Freudenthal states:

> Frankly, I am perplexed by the apparent strategy of some to leverage the passage of the proposed Act to provide the assurances that were being sought in 2005. In my view, the proposed Act should stand apart from the requested assurances and the two should not be intertwined—as to do otherwise would compromise not only this important legislation, but also our working relationship with Colorado, Nebraska, the Bureau of Reclamation and other Wyoming water users in the Platte River basin.
>
> I am hopeful that S. 752 and H.R. 1462 can be passed in their original form.

RESPONSES OF DR. STEWART TO QUESTIONS FROM SENATOR SALAZAR

Question 1. S. 1116 & H.R. 902—Based on your experience, what are the capital investment costs at a typical oil production site that would have to be made to treat produced waters so they can be used safely?

Answer. Typically, the cost of a plant for produced water would vary between $1,000,000 to $5,000,000

Question 2. S. 1116 & H.R. 902—One of the components of S. 1116 would look at ways to reduce the amount of produced waters that are generated at an oil production site.

In your professional opinion, can you estimate by what percentage the produced waters can be reduced, and briefly describe how this is done?

Answer. One way to reduce produced water is to provide the water/oil separation within the well. However, this does not always work

Question 3. S. 1116 & H.R. 902—Your testimony talks about a project coming online near Wellington, Colorado. I assume that the produced water will be available as long as the oil and gas production is taking place.

How long do you expect that water will be available from this project? Are we talking about a long-term supply in most cases?

Answer. We anticipate the produced water will be available for approximately 300 to 500 years. This would be typical for an oil well. Regarding the Coal Bed Methane produced water, we anticipate that these wells will last approximately 20 to 50 years.

RESPONSE OF MR. TIBBETTS TO QUESTION FROM SENATOR SALAZAR

Question. S. 1112 & H.R. 235—It seems clear that a firm water supply is the foundation for Redwood Valley to establish a water system and a rate base that will help solve its financial problems.

Has the District done a sufficient analysis of its alternatives to warrant the conclusion that it is feasible to implement a project that will provide a revenue stream adequate to repay new loans and its outstanding obligation to the Bureau of Reclamation?

Answer. Yes it has. First, the existing plant has the capacity to increase water deliveries to new revenue generating domestic hook-ups which have been embargoed since the 1989 court decision. Second, since 1990 the District has looked at several options which it believes would judicially qualify as a firm water supply source.

One option is the claiming an abandoned water right in its vicinity. This option is referred to as the Mill Creek Project. The District has analyzed its capacity at 3200 AF which is more than sufficient for the District needs. The District has done preliminary engineering and design work. It has conducted preliminary fish studies, identified water flows and has identified necessary water storage site locations. The District has a pending water rights application on file with the California State Water Board. The preliminary estimated cost for the project is about $10,000,000.

The State Water Board will require that Redwood Valley conduct environmental review on the proposed project. These reviews generally take about one year. In California the environmental review process is costly. The District is prepared to take that step when its current loan obligations to the federal government are deferred as provided for in S. 1112 and H.R. 235.

The second option is similar to the one above in that it diverts water during high wintertime flows and stores it for summertime use. This option known as the West Fork Project would provide for 8,000 AF of water.

Preliminary work by the District includes identifying water diversion points, a flow study, and looking at potential storage sites. This project has on file with the California State Water Board a water rights application. As in the above option the California State Water Board would require environmental review. The estimated cost of this project is also about $10,000.000.

The third project is a much larger undertaking and as such would require the participation of the Mendocino County Water Agency and other smaller water districts in the county including Redwood Valley. This project is known as the Eel River Diversion Project. On April 24, 2007, the Mendocino County Board of Supervisors voted to initiate a feasibility study in conjunction with other interested water districts on this project.

The project is located in the Eel River Watershed area in northern Mendocino County. The project would divert Eel River water during wintertime high flows, sending water south to the Ukiah Valley and Redwood Valley areas. Redwood Valley has a water rights application on this project pending before the California State Water Board. The application would need to be amended to include the participating consortium of users. This project is roughly estimated to carry a big price tag of over $100,000,000. This project is presently in the early stages of analyses. Because it may include others in need of water, it has the potential to move fairly quickly in the study stage.

Fourth, in 1990 Redwood Valley undertook a preliminary analysis of locating storage sites which could hold between 2000 AF and 3000 AF of water for summer release. In 1990 these sites ranged in cost between $5 and $7 million dollars. Any selected storage site would require environmental review. The dollar amount would need to be upwardly adjusted by approximately 50%. The engineering analysis shows that the identification of a preferred site and construction is feasible.

Finally, in 2006 Redwood Valley entered into a Memorandum of Understanding (MOU) with five other water agencies in the valley area to explore the possibilities of identifying and constructing joint use storage sites. A new study is presently underway.

Redwood Valley is and will continue to engage other area water agencies and districts for the purposes of seeking partnerships where such collaboration would facilitate the acquisition of a firm water supply source.

Once the court imposed moratorium on revenue producing domestic hook-ups is lifted the District could sustain a payment schedule similar to that which would be necessary to pay its existing federal loans. However, the District cannot simultaneously pay off the existing loan obligations and new capital debt obligations. Following the retirement of new debt necessary to create and construct a firm water supply, the District could then repay its present outstanding loan obligations to the federal government.

APPENDIX II

Additional Material Submitted for the Record

CITY OF AURORA,
UTILITIES DEPARTMENT ADMINISTRATION,
Aurora, CO, April 20, 2007.

Hon. TIM JOHNSON, *Chairman,*
Hon. ROBERT CORKER, *Ranking Member,*
Water and Power Subcommittee, Committee on Energy and Natural Resources, U.S. Senate, Dirksen Senate Office Building, Washington, DC.

DEAR CHAIRMAN JOHNSON AND SENATOR CORKER: We are writing you today to request your support for S. 752, to authorize the Secretary a the Interior to participate in the implementation of the Platte River Recovery Implementation Program ("Program") for Endangered Species in the Central and Lower Platte River basin and to modify the Pathfinder Dam and Reservoir.

The States of Nebraska, Wyoming and Colorado and the U.S. Department of the Interior have entered into a comprehensive basin-wide Program to address habitat needs of endangered and threatened species in the Central and Lower Platte River basin. This cooperative basin-wide approach is an equitable and effective means to resolve conflicts and provide greater certainty that the Platte River will continue as a reliable water source for the many people who reside and use water in the basin as well as wildlife. The proposed Program will allow water use and development activities in each of the three states to continue in compliance with the Endangered Species Act ("ESA.").

For Colorado, the Program will provide regulatory compliance under the ESA for both existing and prospective new water uses within the South Platte River basin. This compliance is needed for water providers to meet the water supply needs of the urban, agricultural and industrial sectors of this rapidly changing and growing part of the state.

Additionally, we request sour support and assistance in ensuring federal funding for the Platte River Recovery Implementation Program. This cooperative Program has the objective of recovering three species of threatened or endangered birds and one endangered fish while allowing water use to continue and water development to proceed in compliance with the ESA. We respectfully request support and assistance by the Subcommittee to fund this vitally important Program.

Sincerely,

PETER D. BINNEY, P.E.,
Director, Aurora Water.

DENVER WATER,
Denver, CO, April 20, 2007.

Hon. TIM JOHNSON, *Chairman,*
Hon. ROBERT CORKER, *Ranking Member,*
Water and Power Subcommittee, Committee on Energy and Natural Resources, U.S. Senate, Dirksen Senate Office Building, Washington, DC.

DEAR CHAIRMAN JOHNSON AND SENATOR CORKER: I am requesting your support for S. 752, to authorize the Secretary of the Interior to participate in the implementation of the Platte River Recovery Implementation Program (Program) for Endangered Species in the Central and Lower Platte River basin and to modify the Pathfinder Dam and Reservoir.

The States of Nebraska, Wyoming, and Colorado and the U.S. Department of the Interior have entered into a comprehensive basin-wide Program to address habitat needs of endangered and threatened species in the Central and Lower Platte River basin. This cooperative basin-wide approach is an equitable and effective means to

resolve conflicts and provide greater certainty that the Platte River will continue as a reliable water source for both wildlife and the many people who reside and use water in the basin. The proposed Program will allow water use and development activities in each of the three states to continue, in compliance with the Endangered Species Act (ESA).

For Colorado, the Program will provide regulatory compliance under the ESA for both existing and prospective new water uses within the South Platte River basin. This compliance is needed for water providers to meet the water supply needs of the urban, agricultural, and industrial sectors of this rapidly changing and growing part of the state.

Additionally, we request your support and assistance in ensuring federal funding for the Platte River Recovery Implementation Program. This cooperative Program has the objective of recovering three species of threatened or endangered birds and one endangered fish while allowing water use to continue and water development to proceed in compliance with the ESA.

We respectfully request support and assistance by the Subcommittee to fund this vitally important Program.

Sincerely,

HJ BARRY,
Manager.

CITY OF LAKEWOOD,
PUBLIC WORKS DEPARTMENT,
Lakewood, CO, April 20, 2007.

Hon. TIM JOHNSON, *Chairman,*
Hon. ROBERT CORKER, *Ranking Member,*
Water and Power Subcommittee, Committee on Energy and Natural Resources, U.S. Senate, Dirksen Senate Office Building, Washington, DC.

DEAR CHAIRMAN JOHNSON AND SENATOR CORKER: I am requesting your support for S. 752, to authorize the Secretary of the Interior to participate in the implementation of the Platte River Recovery Implementation Program (Program) for Endangered Species in the Central and Lower Platte River basin and to modify the Pathfinder Dam and Reservoir.

The States of Nebraska, Wyoming, and Colorado and the U. S. Department of the Interior have entered into a comprehensive basin-wide Program to address habitat needs of endangered and threatened species in the Central and Lower Platte River basin. This cooperative basin-wide approach is an equitable and effective means to resolve conflicts and provide greater certainty that the Platte River will continue as a reliable water source for both wildlife and the many people who reside and use water in the basin. The proposed Program will allow water use and development activities in each of the three states to continue, in compliance with the Endangered Species Act (ESA).

For Colorado, the Program will provide regulatory compliance under the ESA for both existing and prospective new water uses within the South Platte River basin. This compliance is needed for water providers to meet the water supply needs of the urban, agricultural, and industrial sectors of this rapidly changing and growing part of the state.

Additionally, we request your support and assistance in ensuring federal funding for the Platte River Recovery Implementation Program. This cooperative Program has the objective of recovering three species of threatened or endangered birds and one endangered fish while allowing water use to continue and water development to proceed in compliance with the ESA. We respectfully request support and assistance by the Subcommittee to fund this vitally important Program.

Sincerely,

RICHARD J. PLASTINO,
Director of Public Works.

CITY OF LOVELAND,
DEPARTMENT OF WATER AND POWER,
Loveland, CO, April 20, 2007.

Hon. TIM JOHNSON, *Chairman,*
Hon. ROBERT CORKER, *Ranking Member,*
Water and Power Subcommittee, Committee on Energy and Natural Resources, U.S. Senate, Dirksen Senate Office Building, Washington, DC.

DEAR CHAIRMAN JOHNSON AND SENATOR CORKER: I am requesting your support for S. 752, to authorize the Secretary of the Interior to participate in the implementation of the Platte River Recovery Implementation Program (Program) for Endangered Species in the Central and Lower Platte River basin and to modify the Pathfinder Dam and Reservoir.

The States of Nebraska, Wyoming, and Colorado and the U. S. Department of the Interior have entered into a comprehensive basin-wide Program to address habitat needs of endangered and threatened species in the Central and Lower Platte River basin. This cooperative basin-wide approach is an equitable and effective means to resolve conflicts and provide greater certainty that the Platte River will continue as a reliable water source for both wildlife and the many people who reside and use water in the basin. The proposed Program will allow water use and development activities in each of the three states to continue, in compliance with the Endangered Species Act (ESA).

For Colorado, the Program will provide regulatory compliance under the ESA for both existing and prospective new water uses within the South Platte River basin. This compliance is needed for water providers to meet the water supply needs of the urban, agricultural, and industrial sectors of this rapidly changing and growing part of the state.

Additionally, we request your support and assistance in ensuring federal funding for the Platte River Recovery Implementation Program. This cooperative Program has the objective of recovering three species of threatened or endangered birds and one endangered fish while allowing water use to continue and water development to proceed in compliance with the ESA. We respectfully request support and assistance by the Subcommittee to fund this vitally important Program.

Sincerely,

RALPH MULLINIX,
Director.

NEBRASKA PUBLIC POWER DISTRICT,
Columbus, NE, April 20, 2007.

U.S. Senate,
Committee on Energy and Natural Resources, Washington, DC.

Subject: S. 752

DEAR HONORABLE COMMITTEE MEMBERS: My name is Brian Barels and I am the Water Resources Manager for Nebraska Public Power District (NPPD). On behalf of NPPD I would like to offer NPPD's support for S. 752 to authorize the Secretary of Interior to participate in implementation of the Platte River Recovery Implementation Program (Program) for endangered and threatened species in the central and lower Platte River Basins in Nebraska.

NPPD provides approximately one-half of the electricity consumed in Nebraska. NPPD's customers received a substantial amount of electricity from generating facilities associated with water resources along the Platte River Basin. NPPD has been directly involved in monitoring and providing habitat for endangered and threatened species along the Platte River for many years. In addition, NPPD, as part of the relicensing of our Platte River hydroelectric project, has committed habitat, water, and monitoring resources that have been integrated into this Program and we have actually been implementing those activities with the intention to jumpstart this Program and provide benefits to the species.

NPPD has been directly involved in the process that has led to the development of this program since its inception by the governors of the three states and the Secretary of Interior in 1993. NPPD believes this program provides for a collaborative effort by three states, water users, environmental interests, and two federal agencies to provide for monitoring and habitat enhancement for endangered and threatened species in the central Platte River Basin.

In summary, NPPD urges your support of S. 752 which will authorize the Secretary of Interior to participate in this collaborative Program for endangered and threatened species.

If you should have any questions, I can be reached at 402-563-5335.

Sincerely,

BRIAN L. BARELS,
Water Resources Manager.

SOUTH ADAMS COUNTY
WATER & SANITATION DISTRICT,
April 20, 2007.

Hon. TIM JOHNSON, *Chairman,*
Hon. ROBERT CORKER, *Ranking Member,*
Water and Power Subcommittee, Committee on Energy and Natural Resources, U.S. Senate, Dirksen Senate Office Building, Washington, DC.

DEAR CHAIRMAN JOHNSON AND SENATOR CORKER: I am requesting your support for S. 752, to authorize the Secretary of the Interior to participate in the implementation of the Platte River Recovery Implementation Program (Program) for Endangered Species in the Central and Lower Platte River basin and to modify the Pathfinder Dam and Reservoir.

The States of Nebraska, Wyoming, and Colorado and the U. S. Department of the Interior have entered into a comprehensive basin-wide Program to address habitat needs of endangered and threatened species in the Central and Lower Platte River basin. This cooperative basin-wide approach is an equitable and effective means to resolve conflicts and provide greater certainty that the Platte River will continue as a reliable water source for both wildlife and the many people who reside and use water in the basin. The proposed Program will allow water use and development activities in each of the three states to continue, in compliance with the Endangered Species Act (ESA).

For Colorado, the Program will provide regulatory compliance under the ESA for both existing and prospective new water uses within the South Platte River basin. This compliance is needed for water providers to meet the water supply needs of the urban, agricultural, and industrial sectors of this rapidly changing and growing part of the state. South Adams County Water and Sanitation District (District) is a municipal water supply provider in the northeastern Denver metro area and is experiencing rapid growth. The Program will provide significant benefit to the District in meeting the needs of its members.

Additionally, we request your support and assistance in ensuring federal funding for the Platte River Recovery Implementation Program. This cooperative Program has the objective of recovering three species of threatened or endangered birds and one endangered fish while allowing water use to continue and water development to proceed in compliance with the ESA. We respectfully request support and assistance by the Subcommittee to fund this vitally important Program.

Sincerely,

CURT W. BAUERS, P.E., P.G.,
Water Systems Manager.

NORTHERN COLORADO WATER CONSERVANCY DISTRICT,
Berthoud, CO, April 20, 2007.

Hon. TIM JOHNSON, *Chairman,*
Hon. ROBERT CORKER, *Ranking Member,*
Water and Power Subcommittee, Committee on Energy and Natural Resources, U.S. Senate, Dirksen Senate Office Building, Washington, DC.

DEAR CHAIRMAN JOHNSON AND SENATOR CORKER: On behalf of the Northern Colorado Water Conservancy District, I am requesting your support for 007-752 to authorize the Secretary of the Interior to participate in and contribute funding toward the Platte River Recovery implementation Program for Threatened and Endangered Species in the Central and Lower Platte River basin, and to modify the Pathfinder Dam and Reservoir.

The States of Nebraska, Wyoming, and Colorado and the U.S. Department of the Interior have entered into a comprehensive basin-wide Program to address habitat needs of endangered and threatened species in the Central and Lower Platte River basin. The Program is a cooperative, basin-wide solution created to resolve escalating conflicts between water use and endangered species protection that affect federal permitting of both existing and planned irrigation and municipal water supply projects in the Platte River basin, and more specifically in Colorado's South Platte

River basin. Resolution of these conflicts is of state interest and important to all who live and work along Colorado's rapidly growing Front Range.

For Colorado, the Program will provide regulatory compliance under the Endangered Species Act for both existing and prospective new water uses within the South Platte River basin. This compliance is needed for water providers to meet the water supply needs of the urban, agricultural, and industrial sectors of this rapidly changing and growing part of the state. This cooperative Program also preserves and enhances habitat that is critical for the continued survival of three species of threatened or endangered birds and one endangered fish. We respectfully request support and assistance by the Subcommittee to fund this vitally important Program.

Sincerely,

ALAN D. BERRYMAN,
Assistant General Manager.

NORTHERN COLORADO WATER CONSERVANCY DISTRICT,
Berthoud, CO, April 20, 2007.

Hon. TIM JOHNSON, *Chairman,*
Hon. ROBERT CORKER, *Ranking Member,*
Water and Power Subcommittee, Committee on Energy and Natural Resources, U.S. Senate, Dirksen Senate Office Building, Washington, DC.

DEAR CHAIRMAN JOHNSON AND SENATOR CORKER: On behalf of the Northern Colorado Water Conservancy District (Northern Water), I am requesting your support for S. 752, to authorize the Secretary of the Interior to participate in the implementation of the Platte River Recovery Implementation Program (Program) for Endangered Species in the Central and Lower Platte River basin and to modify the Pathfinder Dam and Reservoir.

The states of Nebraska, Wyoming, and Colorado and the U.S. Department of the Interior have entered into the comprehensive basin-wide Program to address habitat needs of endangered and threatened species in the Central and Lower Platte River basin. This cooperative basin-wide approach is an equitable and effective means of resolving conflicts and providing greater certainty that the Platte River will continue as a reliable water source for both wildlife and the many people who reside and beneficially use water within the basin. The proposed Program will allow water use and development activities in each of the three states to continue in compliance with the Endangered Species Act (ESA).

For Colorado, the Program will provide regulatory compliance under the ESA for both existing and future water uses within the South Platte River Basin. This compliance is needed for water providers to meet the water supply needs of the urban, agricultural, and industrial sectors of this rapidly changing and growing part of Colorado.

Northern Water requests your support and assistance in ensuring federal funding for the Platte River Recovery Implementation Program. This cooperative Program has the objective of recovering three species of threatened or endangered birds and one endangered fish, while allowing water use to continue and water development to proceed in compliance with the ESA.

We respectfully request support and assistance by the Subcommittee to fund this vitally important Program.

Sincerely,

ERIC W. WILKINSON,
General Manager.

THE STATE OF WYOMING,
OFFICE OF THE GOVERNOR,
Cheyenne, WY, May 4, 2007.

Hon. CRAIG THOMAS,
U.S. Senate, Dirksen Senate Office Building, Washington, DC.

Hon. MICHAEL B. ENZI,
U.S. Senate, Russell Senate Office Building, Washington, DC.

Hon. BARBARA CUBIN,
U.S. House of Representatives, Longworth House Office Building, Washington, DC.

DEAR SENATOR THOMAS, SENATOR ENZI AND REPRESENTATIVE CUBIN: During the recent hearing held before the Senate Subcommittee on Water and Power on S. 752, the Platte River Recovery Implementation Program and Pathfinder Modification Project Authorization Act (proposed Act), there was discussion regarding the State

of Wyoming's position as it relates to an amendment being circulated on behalf of the Upper North Platte Water Users. The amendment proposes a restriction on the Bureau of Reclamation's ability to place a priority call for Pathfinder Reservoir, including the proposed Pathfinder Modification Project, between May 1st and September 30th in any year.

In terms of the history of this issue, on March 15, 2005, I wrote each of you a letter noting my support for the Platte River Recovery Implementation Program and the Pathfinder Modification Project, advising that the Town of Saratoga filed a petition for the abandonment of the storage space needed for the Pathfinder Modification Project, and offering that the Town, through the Upper North Platte Water Users, had suggested that they would withdraw their petition if they could be guaranteed that the Bureau of Reclamation would not request a call for Pathfinder Reservoir between May 1st and September 30th. The Wyoming Attorney General had issued an opinion which indicated that the Wyoming State Engineer should not legally recognize such a call by the Bureau. While this opinion provided some comfort to the Upper Platte users, they were interested in assurances that the Bureau would recognize Wyoming law. Therefore, I sought assistance from the Wyoming Delegation in obtaining the requested guarantee through congressional action. Today, it unfortunately seems that my now two year old letter, written wholly outside the context of the proposed Act, may derail federal legislation that is critical to the long term viability, predictability and sustainability of water use in Wyoming.

Frankly, I am perplexed by the apparent strategy of some to leverage the passage of the proposed Act to provide the assurances that were being sought in 2005. In my view, the proposed Act should stand apart from the requested assurances and the two should not be intertwined—as to do otherwise would compromise not only this important legislation, but also our working relationship with Colorado, Nebraska, the Bureau of Reclamation and other Wyoming water users in the Platte River basin.

I am hopeful that S. 752 and H.R. 1462 can be passed in their original form.

Best regards,

DAVE FREUDENTHAL,
Governor.

STATEMENT OF DENNIS STRAUCH, GENERAL MANAGER, PATHFINDER IRRIGATION DISTRICT

My name is Dennis Strauch, General Manager of the Pathfinder Irrigation District, headquartered in Mitchell, Nebraska. The Pathfinder Irrigation District by contract with the Bureau of Reclamation operates the Interstate Division of the Bureau's North Platte Project. The District provides irrigation water to over 102,000 acres in western Nebraska and eastern Wyoming. In addition the District, by contract delivers water to two irrigation districts in Wyoming serving approximately 15,000 acres.

There are 13 irrigation districts, including Pathfinder in western Nebraska and eastern Wyoming that by contract with the Bureau of Reclamation receive their storage water supplies from Reclamation's Pathfinder and Guernsey Reservoirs in Wyoming. Because of these districts connection by contract with a federal agency, their water use is subject to review under the Endangered Species Act.

For the past 10 plus years I have represented water users in western Nebraska and eastern Wyoming on the Governance Committee negotiating the Platte River Recovery Implementation Program (PRRIP). The Platte River Recovery Implementation Program provides for a cooperative basin-wide approach to addressing endangered species issues on the Central Platte River in Nebraska, involving the states of Colorado, Wyoming and Nebraska, the Department of Interior, water users in all three states and conservation interests.

The water users I represent fully support Senate Bill 752, which authorizes the Secretary of Interior's participation in the Platte River Recovery Implementation Program and the necessary federal funding. S. 752 also authorizes the Pathfinder Modification Project, which is a water component for the PRRIP, offered by the State of Wyoming and the water users whose water supply comes from Pathfinder Reservoir.

It is my understanding that there are some interests in the upper reach of the North Platte River basin that support amending S. 752 to include restrictions on the water right for Pathfinder Reservoir. This is totally unacceptable to the 13 irrigation districts and the hundreds of water users who heavily rely on Pathfinder Reservoir for their water supply. For the past 5 years and once again this year, the drought in Wyoming and Nebraska has severely limited the available water supply

for our irrigators. To restrict the ability of the Bureau of Reclamation to call for administration of junior water rights above Pathfinder Reservoir for the benefit of it's senior right would cause severe injury to the water users in Nebraska and Wyoming who depend on water from the reservoir. This issue was addressed in the Final Settlement Stipulation in Nebraska v. Wyoming, 534 U.S. 40 (2001). S. 752 is not the proper place to address water right concerns. If water users in the upper North Platte River Basin are unhappy with the settlement reached in Nebraska v. Wyoming, they should discuss their displeasure with Wyoming representatives to the North Platte Decree Committee.

I strongly encourage passage of S. 752, with no amendments. Your consideration of my comments as you contemplate advancement and passage of S. 752, would be greatly appreciated.

STATEMENT OF ANN BLEED, DIRECTOR OF THE NEBRASKA DEPARTMENT OF NATURAL RESOURCES

My name is Ann Bleed. I am the Director of the Nebraska Department of Natural Resources and am Nebraska Governor David Heineman's representative on the Governance Committee of the Platte River Recovery Program.

Thank you for this opportunity to provide testimony in support of Senate Bill 752 (House Resolution 1462) and its authorization of the Platte River Recovery Implementation Program.

The Platte River system arises in the mountains of Colorado and Wyoming crosses the State of Nebraska and empties into the Missouri River on Nebraska's eastern border. The Platte River and its tributaries irrigate millions of acres of farmland, provide water to cities such as Denver, Colorado, Casper, Wyoming, Lincoln and Omaha Nebraska, as well as numerous smaller cities and towns, and provide water for power plants that provide power throughout the western United States.

The Platte River in Nebraska also provides critical habitat to the endangered or threatened whooping crane, least tern, piping plover and pallid sturgeon, as well as habitat for numerous other species, and is a major staging area for migrating sandhill cranes. In the 1990's the State of Nebraska granted instream flow permits to protect fish and wildlife habitat along the Platte and put a moratorium on the issuance of new surface water permits on the western two-thirds of the Platte River and its tributaries.

Nevertheless, the importance of this river for so many competing interests led to conflicts not only among these interests, but also among the three states through which it flows. Exacerbating these conflicts was the need to comply with the federal Endangered Species Act. In an attempt to avoid costly litigation in 1994 the three states and their constituents and the U.S. Department of Interior signed a Memorandum of Understanding that after thirteen years of intense negotiations developed and approved the Platte River Recovery Implementation Program.

The goal of the Program is to use a basin-wide cooperative approach to assist in the conservation and recovery of habitat for the Platte's endangered and threatened species and help prevent the need to list more basin associated species pursuant to the Endangered Species Act, while at the same time provide regulatory certainty to the people and industries that also rely on the flows of the river.

The Program has established an organizational structure that will ensure appropriate state and federal government and stakeholder involvement in the implementation of the Program. The Program will utilize an incremental approach to land and water management that places an appropriate and heavy reliance on the development of sound science through an adaptive management program. This adaptive management program has developed extensive protocols for testing hypotheses and management techniques to insure that the efforts of program participants will produce the desired results.

The States and other interests in the basin have committed substantial resources to the success of this effort including $30 M, major land contributions and an average of 80,000 acre-feet of water. In addition each state has committed to reduce their consumptive use of water to 1997 levels and implement administrative procedures to hold water use at this limit.

Before closing I would like to address an amendment to Senate Bill 752 and House Resolution 1462 that has been proposed on behalf of the Upper North Platte Water Users in Wyoming relating to the Pathfinder Modification Project, which is part of the Platte River Recovery Implementation Program. The Bureau of Reclamation has a Wyoming water right to store 1,070,000 acre feet of water in Pathfinder Reservoir for the benefit of the North Platte Project, which includes irrigated land in Eastern Wyoming and Western Nebraska. Over the years, 53,493 acre feet of the

storage capacity of the reservoir have been lost to sediment. The Pathfinder Modification Project would recapture this storage space.

The administration of the water rights for using this recaptured space was the subject of much negotiation among the United States and the States of Colorado, Nebraska, and Wyoming, all of whom were parties to the settlement of the Nebraska v. Wyoming law suit, which was approved by the U.S. Supreme Court in November, 2001. The results of these negotiations were codified in Appendix F to the Final Settlement Stipulation This appendix, which establishes the terms and conditions under which the Pathfinder Modification Project will be operated states in part:

> The recaptured storage space would store water under the existing 1904 storage right for Pathfinder Reservoir and would enjoy the same entitlements as other uses in the reservoir with the exception that the recaptured storage space could not place regulatory calls on the existing water rights upstream of Pathfinder Reservoir other than the rights pertaining to Seminoe Reservoir.

The proposed amendment suggests that the Bureau of Reclamation should be restricted from seeking water rights administration on behalf of Pathfinder Reservoir during the irrigation season. It is Nebraska's view that the restrictions on calls for regulation for Pathfinder Reservoir during the irrigation season in the proposed amendment would be in violation of the Modified North Platte River Decree.

In summary, the negotiations to develop this program were long and arduous. The time, land, water and financial commitments by the States, water and power districts, environmental interests and the people in the basin are very substantial. There are a lot of future challenges that the Program must overcome. However, when the Governor's of all three States signed the Program agreement, the States attested to the premise that cooperation and collaboration will provide a much higher likelihood of protecting habitat and providing regulatory certainty for all involved than any other alternative. For this reason I urge you to enable the federal government to be a partner in this collaborative effort.

Thank you again for this opportunity to provide testimony.

STATEMENT OF THE NATIONAL WILDLIFE FEDERATION

INTRODUCTION

The Platte River basin is one of the most important ecosystems and economic areas in the Rocky Mountain-High Plains region. With its watershed in Colorado, Wyoming, and Nebraska, the river has played an essential role in both defining the character of the region ecologically and in sustaining the economy. Unfortunately, the environmental value of the river has often been ignored in the pursuit of more narrowly defined economic goals. The challenge now, from both an environmental and economic perspective, is to begin the process of correcting the past imbalance in an equitable and efficient fashion. The river supports millions of ducks and geese and hundreds of thousands of sandhill cranes on their Central Flyway migration. But what makes the environmental challenge even more important and imperative is the role the river plays in supporting endangered species.

The Platte River Recovery Implementation Program (recovery program) and its approval under the Platte River Recovery Implementation Program and Pathfinder Modification Authorization Act of 2007 will mark a significant step in correcting the disparity between the economic and environmental importance of the Platte. The recovery program identifies an initial set of flow and land protection measures that the U.S. Fish and Wildlife Service has determined to be a sound basis for the first stage in restoration of the structure and function of the Platte River ecosystem in central Nebraska. The ultimate goal is the reestablishment of a riverine/land habitat complex that can meet the needs of the endangered whooping crane, interior least tern, and piping plover and, farther east, the testing of actions and associated research activities that will provide a better understanding of the needs of the pallid sturgeon.

The states of Colorado, Wyoming, and Nebraska, their water users, and the environmental community have accepted these resource management goals and the associated research agenda as the basis for starting the process of restoration. An important feature of the structure of the recovery program is its incorporation of flexible provisions that allow the states' water users to continue to divert water to which they are entitled and, at the same time, providing them a substantial measure of regulatory certainty under the Endangered Species Act. This concept of flexibility

is also incorporated in a land conservation plan that is based on willing seller/willing buyer agreements and in a research and monitoring protocol that incorporates a carefully constructed adaptive management program.

The Platte River Recovery Implementation Program Cooperative Agreement, signed at the end of 2006 by the Secretary of Interior and the governors of the three states, is the product of several years of negotiations among the states, the Department, water users, and environmentalists (including National Wildlife Federation). It sets in motion the process of putting in place the detailed land and water program elements designed to reverse the long-term process of habitat deterioration in the Platte River.

In April 2004 the National Academy of Sciences (NAS) issued a report on the importance of the Platte River to the endangered species mentioned above (Endangered and Threatened Species of the Platte River) and the role of the recovery program in the Platte's restoration. The Academy committee that reviewed the Platte agreed unanimously that the habitat in central Nebraska is unique, that the U.S. Fish and Wildlife Service's proposal for habitat restoration measures that have been incorporated in the recovery program were sound, and that ultimately ". . . [s]uccessful, sustainable solutions of species issues . . . must begin with water management."

At the time the NAS report was released, the environmental community strongly supported its conclusions and we believe they remain applicable today. We believe that the report validates the data and science embodied in the recovery program, a set of sound water and land protection activities.

With the passage of SB 752, we will have taken a major step in the authorization for a Platte River Program that is based on the following actions:

- A water program that includes modifying Pathfinder Dam in Wyoming, Lake McConaughy environmental storage in Nebraska, groundwater recharge and management in Colorado (at Tamarack State Wildlife refuge and elsewhere), and other water actions that will reduce flow shortages in the central Platte by at least 130,000 to 150,000 acre-feet.
- Channel improvements in the North Platte River near the town of North Platte that will increase capacity to 3,000 cubic feet/second (cfs) or such improvements that will increase the flood stage to six feet allowing the U.S. Fish and Wildlife Service to use its McConaughy environmental water to produce a flow of at least 5,000 cfs at Lexington, Nebraska for three days in the spring.
- A 10,000-acre land plan based on habitat complexes that will establish channel areas and other important habitat by means of purchase, permanent conservation easements, and long-term leases.
- A sediment management plan that will clear islands upstream of the central Platte habitat and that will be sufficient to ensure no further river habitat degradation downstream.
- A research and monitoring plan that will be sufficient to track the impacts of all changes to the habitat and their relationship to species.

CONCLUDING COMMENT

We believe that there is a clear need for an endangered species recovery program in the Platte River that is basinwide, comprehensive, and cooperative. Because we recognize the importance of constructing a program that is politically feasible, we support the program's key principles of protecting water entitlements, of willing seller/willing buyer land conservation arrangements, an incremental approach to habitat improvement and protection, and adaptive management. The recovery program honors all these key principles. For these reasons and because the Platte is a unique and vital habitat, the National Wildlife Federation supports the recovery program and urges this committee and the Senate to authorize the program by passing SB 752.

STATEMENT OF DON KRAUS, GENERAL MANAGER, THE CENTRAL NEBRASKA PUBLIC POWER AND IRRIGATION DISTRICT

My name is Don Kraus, General Manager of The Central Nebraska Public Power and Irrigation District (District), with headquarters in Holdrege, Nebraska. My testimony today is offered in support of S. 752 and its authorization of Department of the Interior's participation in the Platte River Recovery Implementation Program (Program) for three threatened or endangered species using the central Platte River and one using the lower Platte.

The District operates the Kingsley Dam Project (Project) in south-central Nebraska. Using water from the North Platte and Platte Rivers, the Project directly provides irrigation water to approximately 200,000 acres, groundwater recharge resulting from project operations indirectly provides irrigation to an additional 300,000 acres and recreation benefits to over 1,000,0000 visitors annually. The Project also generates hydroelectric power at four hydropower plants under the jurisdiction of the Federal Energy Regulatory Commission (FERC).

In the mid-1980s, the District applied to renew its FERC license, a process which included consultation with the U.S. Fish and Wildlife Service (the Service) under the federal Endangered Species Act (ESA). The relicensing proceeding continued through many years and cost many millions of dollars as a result of conflicting scientific and legal opinions on ESA issues. Concurrent with the relicensing proceeding, other water users in the Platte basin were also entering ESA consultation with the Service, and together the complex regulatory conflicts were headed toward what was then popularly called an "ESA train wreck."

As a result of these ongoing conflicts regarding ESA issues in the Platte basin, the District and many other entities started to seek a comprehensive basin-wide approach to addressing ESA requirements. The process went through many phases, starting with a simple Memorandum of Understanding in 1994 and culminating with the Platte River Program (Program) that is the subject of S. 752. At its core, the program provides a way for existing and potential future water uses throughout the Platte basin to operate while meeting the regulatory requirements of the ESA. Indeed, the District's FERC licensing was resolved in 1998 because FERC assumed that the Program would be developed and implemented. Since that time the District has been making millions of dollars of contributions of habitat and water for endangered species that will become a part of the Program. Key to reaching agreement on the District's commitments was the Program's assurance of mitigation for the impacts to water development after 1997, and the regulatory certainty that meeting Program milestones will address ESA compliance concerns into the future. The development of the Program has not been easy and has required a great deal of effort on the part of all involved. We believe it offers a better opportunity than any alternative to protect endangered species and provide regulatory certainty for the District and water users throughout the basin.

For all of these reasons I urge passage of S. 752 to authorize the Department of the Interior to participate in implementing the Program.

SUPPLEMENTAL STATEMENT OF DON KRAUS, THE CENTRAL NEBRASKA PUBLIC POWER AND IRRIGATION DISTRICT

My name is Don Kraus, General Manager of The Central Nebraska Public Power and Irrigation District (District), with headquarters in Holdrege, Nebraska. The following testimony is offered to supplement earlier testimony that was supportive of S. 752 and its authorization of federal participation in the Platte River Recovery Implementation Program (Program).

I was disappointed to learn in the discussion of S. 752 that there is now consideration of potential restrictions on the rights of the United States Bureau of Reclamation (USBR) to place a call under Wyoming state water administration affecting waters stored in Pathfinder reservoir. The District strongly opposes this potential change to S. 752.

Such a change represents an attempt to interfere with state water administration. The administration of waters within a state has historically been reserved to the states and I believe that any infringement on that authority should be strongly resisted. In addition, the restriction has apportionment ramifications between Nebraska and Wyoming that could negatively affect the water supply for hundreds of thousands of irrigated acres in the panhandle of Nebraska. This amendment would also undermine the principles established in the decree between Nebraska and Wyoming and may result in additional litigation regarding the division of water between the two states.

In addition, the change would upset the balance among the three basin states and the federal government that was carefully struck in the Program agreement. If the agreed upon balance is not maintained, years of work to develop a basin wide approach to addressing endangered species issues are in jeopardy.

Your efforts to ensure that a potential amendment to place a restriction on the rights of the USBR to place a call under Wyoming water law is blocked would be greatly appreciated. Thank you for your consideration of this supplemental testimony.

STATEMENT OF TED KOWALSKI, COLORADO WATER CONSERVATION BOARD

My name is Ted Kowalski and I manage the Platte River Program for the State of Colorado. I am providing this written testimony in support of the Platte River Recovery Implementation Program and Pathfinder Modification Authorization Act. The State of Colorado appreciates this subcommittee's attention to these issues, and we are grateful to Senators Nelson, Salazar, Hagel, and Allard for their leadership in pursuing this important legislation.

By way of background, the North and South Platte Rivers start in Colorado. The South Platte River basin is Colorado's most populous basin, with more than 3 million residents. Like much of the western United States, the population in the South Platte basin is increasing dramatically. With the increases in population in Colorado comes additional water development.

For many years, the States of Colorado, Nebraska, Wyoming, and the Department of the Interior have been working with our stakeholders to establish the framework for an Endangered Species Act Recovery Program (Program) to recover the endangered whooping crane, interior least tern, and pallid sturgeon, and the threatened piping plover. Each of these species has designated habitat the State of Nebraska along the Platte River. That critical habitat is impacted by actions upstream of it in Wyoming and Colorado. I am pleased to testify that this hard work has paid off, and that the three States and the federal government signed a Program agreement in the fail of 2006. The Program, established by that agreement, began on January 1, 2007.

The Program is modeled after the very successful and longstanding Upper Colorado River Recovery and the San Juan River Recovery Programs. The State of Colorado has benefited from these programmatic approaches to recovering endangered species while allowing water development to continue within the States that participate in these types of recovery programs.

The Platte Program is incremental, and the first increment is expected to last thirteen years. Within the first thirteen years, the participants will: 1) acquire and restore 10,000 acres of habitat; 2) provide 130,000 to 150,000 acre-feet of water to meet certain target flows; 3) operate within state and federal laws and the depletion plans established under the Program; and, 4) provide integrated monitoring and research through a comprehensive adaptive management plan.

By pursuing recovery of these species on a programmatic basis, as opposed to pursuing recovery efforts on a case-by-case basis, we wilt use our resources more efficiently and effectively. Moreover, water users will benefit from streamlined consultations with the Fish and Wildlife Service as opposed to individualized consultations and negotiations.

Colorado is dedicated to the success of the Platte River Recovery Program. The State has already appropriated and authorized the expenditure of up to $7 million dollars to meet Colorado's cash and water obligations. In addition, there is legislation pending that immediately authorizes an additional expenditure of $3 million dollars on July 1, 2007 and sets forth a plan to fund the majority of Colorado's remaining obligations over the next several years. Water providers, environmental organizations, and the agricultural community have all expressed support for the State legislation.

Water providers, in particular, have been partners with the State since the beginning of the three states negotiations. Colorado water users have established an organization called the South Platte Water Related Activities Program (SPWRAP), which is a nonprofit organization. SPWRAP has the authority to assess annual assessments from its members, and to use that money to help the State of Colorado meet its obligations under the Program.

It is important to note that the Colorado Water Conservation Board, Colorado's statewide water policy board, unanimously passed a resolution in support of this federal legislation. A copy of this resolution is attached to this written statement.

Once again, thank you for your consideration. I hope that you will support this legislation that is important to the Recovery of endangered species and the citizens of the United States and, in particular, the States of Colorado, Wyoming and Nebraska.

[Attachment.]

CWCB RESOLUTION 2007-1

In Support of Federal and State Legislation Authorizing and Appropriating funds for the Platte River Recovery Implementation Program

WHEREAS, the State of Colorado is signatory to the South Platte River Compact, C.R.S. Section 37-65-101, et seq., executed on behalf of the State on the 27th day of April, 1923. The South Platte River Compact divides and apportions the water of the South Platte River between the State of Colorado and the State of Nebraska.

WHEREAS, the State of Colorado is subject to a decree of the United States Supreme Court regarding the use of the waters of the North Platte River. Nebraska v. Wyoming, 325 U.S. 589, 65 S.Ct. 1332, 89 L.Ed. 1815 (1945) as amended or as it may be amended.

WHEREAS, the South Platte River Compact and the decree in Nebraska v. Wyoming limit the use of the waters of the South Platte and North Platte Rivers within the State of Colorado.

WHEREAS, the State of Nebraska, in the case of the South Platte River, and the States of Wyoming and Nebraska, in the case of the North Platte River, are entitled to use such waters of the South and North Platte Rivers, respectively, which flow out of the State of Colorado in accordance with the requirements of the South Platte River Compact and the decree in Nebraska V. Wyoming.

WHEREAS, all water which is not required to flow out of Colorado under the South Platte River Compact and the decree in Nebraska v. Wyoming is available for diversion and beneficial use within the State of Colorado.

WHEREAS, the United States Fish and Wildlife Service ("U.S.F.W.S.") has listed the whooping crane, piping plover, least tern, and pallid sturgeon under the federal Endangered Species Act, and has designated critical habitat for the whooping crane pursuant to the Endangered Species Act. These species, and the designated critical habitat, are located in the Central Platte Region of the State of Nebraska.

WHEREAS, the State of Colorado was a signatory to a Cooperative Agreement between the States of Colorado, Wyoming, and Nebraska, and the United States Department of the Interior for the purpose of developing a program to protect and improve habitat for the endangered and threatened species, originally executed on July 1, 1997, and which was extended three times.

WHEREAS, the Bureau of Reclamation has issued a Final Environmental Impact Statement and a final Record of Decision ("ROD"), and the U.S.F.W.S. has issued a final Biological Opinion, in support of the Platte River Recovery Implementation Program ("Program").

WHEREAS, the Governors of the States of Colorado, Wyoming, and Nebraska, and the Secretary of the United States Department of the interior signed the Program. Agreement to protect and improve habitat for the endangered and threatened species.

WHEREAS, the State of Colorado and Colorado water users will benefit from the regulatory certainty associated with the Program.

WHEREAS, the State of Colorado recognizes the value in recovering threatened and endangered species and supports the Program and the Adaptive Management Plan as a measured effort towards this goal.

NOW THEREFORE BE IT RESOLVED that the Colorado Water Conservation Board:

1. Supports the passage of federal legislation that would federally authorize the Program, as well as any other legislation that would appropriate federal funds for the Program.

2. Supports the passage of House Bill 07-1182, and any other subsequent legislation that would authorize the expenditure of State funds necessary to satisfy Colorado's obligations under the Program.

Unanimously approved on March 12, 2007 in Canon City, Colorado.

STATEMENT OF BRYAN MITCHELL, P.E., CAPITAL PROJECTS ENGINEER, CITY OF NORMAN, OK

Chairman Bingaman and Members of the Committee: The citizens of Norman, Oklahoma, along with all other Oklahomans realize the importance of their water supply. Regardless of their needs, everyone understands their future depends on reliable amounts of water. Everyone desires a future with adequate water supplies.

Norman, Oklahoma, along with Midwest City and Del City rely upon Lake Thunderbird as their primary source of drinking water. This reservoir was constructed by the United States Department of the Interior Bureau of Reclamation in the early

1960's. The three cities share the responsibility of its operation through the Central Oklahoma Master Conservancy District (the District). Each city holds rights to a portion of the water supply provided by Lake Thunderbird. No additional rights are currently available to others.

Into the early 1980's Lake Thunderbird provided an adequate supply source of water for the District. Midwest City and Del City had abundant supply reserves within their portion of the District but during this time Norman began to draw near to their allotted capacity. In 1988 Norman exceeded their allocation of the District for the first time. Since then, Norman's allocation has been exceeded a total of 15 times. This threshold has been crossed the last 10 consecutive years with no projected future demands below our legally allocated amount.

As Norman's demands upon Lake Thunderbird grew, it was understood that additional supplies were needed. Beginning in the early 1980's Norman started drilling new water wells into the naturally occurring aquifer beneath its city boundaries. This aquifer was the supply source prior to the construction of the lake and was relied upon again to meet Norman's needs. Wells drilled over the last 25 years help meet an ever growing demand in Norman. Lake Thunderbird and the District's supply capabilities have been relied upon continuously throughout this period.

In 1999 the City of Norman, facing the now common supply shortfall from the District, built a waterline connecting to the City of Oklahoma City's treated water supply system. This line serves as an emergency supply source only. Norman voters have not approved a water rate structure capable of relying upon this high priced water. This alternative supply shortfall reflects Norman's desire to rely upon the District and its supply capabilities over the long term.

Norman's decision to rely, long term, upon the District is the beginning of the process that has led to this testimony today. In 2003 the 108th Congress provided funding through the Energy and Water Appropriation Bill to begin the process of achieving additional long term water supplies for the District and the possibility of an even larger public benefit. The *Norman Project, Oklahoma, Water Supply and Augmentation Enhancement—Appraisal Investigation* was initiated with the 2003 approval. The final report was delivered in August 2005. A copy of this report is included for the record as Attachment No. 1.

In May 2005 discussions were underway between Norman, the District, the Oklahoma Water Resources Board and the Bureau of Reclamation as to the need for investigating the feasibility of augmenting the supply capability of Lake Thunderbird. In May 2005 it was communicated that the cost of a feasibility study was $600,000. With this information, Senator Inhofe and Congressman Cole, both of Oklahoma, introduced companion bills calling for the appropriation of $300,000 and authorization for the Bureau of Reclamation to perform the needed studies. The legislation introduced in 2006 did not make it through committee due to timing limitations.

It has long been the idea to bring water into the District from some outside source to help meet long term demands. The idea of out of basin water is a good idea but is not allowed under the existing State of Oklahoma water permit for the District. A purpose of the *Appraisal Investigation* was to formally introduce the idea of using Lake Thunderbird to assist with the redistribution of the waters of the State of Oklahoma to the metropolitan area citizens. This was considered in the initial report and will be further pursued in the *Feasibility Study.* The State of Oklahoma Water Resources Board is participating in this study and supports the option of augmenting the waters in Lake Thunderbird while protecting the rights of all parties potentially impacted.

The *Appraisal Investigation,* completed by the Bureau of Reclamation, reports four possible scenarios to help meet the District's ability to continue to meet their member's long term water supply needs. This document completes the appraisal-level assessment of alternatives and opportunities that could be implemented to meet present and future water needs of the District and Central Oklahoma.

The purpose of completing this investigation was to determine the desirability of proceeding to a *Feasibility Study* of the project. This series of investigations, each looking in defined levels of detail, review the validity of the District's needs. The Appraisal Study, Feasibility Study, and the concluding Final Design Report are the series of events that must be completed by the Bureau of Reclamation before taking formal action to construct or modify any federal projects. Lake Thunderbird is a federal project and the District is pursuing this series of events to continue their ability to meet the water service expected of them.

Four options were considered in the *Appraisal Investigation* report. These options centered on the replacement of key pieces of infrastructure and supply availability. Broad cost projections were completed for each option and detailed in Attachment No. 1. The conclusion of this initial review is the foundation for starting the *Feasibility Study.* The *Feasibility Study* begins to look in detail at very specific items for

consideration. Implementing any project in the future to help the District with its ability to serve the public better will involve more than just water. Augmenting the water supplies of Lake Thunderbird could impact water rights, water quality, and instream uses for fish and wildlife as well as recreation. Associated studies to address these items would need to be completed during the *Feasibility Study*. This effort, if approved and funded, would determine actual environmental impacts and any mitigation actions that may be required.

On January 4th, 2007 Senator Inhofe of Oklahoma introduced S. 175 which was referred to the Committee on Energy and Natural Resources. This bill, if approved, will lead towards solving the District's long term water needs. S. 175 will provide for a *Feasibility Study* of alternatives to augment water supplies of the District and the cities so served. A copy of S. 175, as proposed, is included for the record as Attachment No. 2. In addition, Congressman Cole of Oklahoma has also introduced H.R. 1337 to address this same issue. The combined involvement of Senator Inhofe and Congressman Cole reflects the need to address the water supply issues faced by the District and the citizens of Oklahoma.

Prior to and following the submission of S. 175 the City of Norman and the Central Oklahoma Master Conservancy District believed that the project cost of May 2005, $600,000, was reasonably accurate for the efforts to be undertaken. In March 2007 City of Norman and District officials learned that the cost for the Bureau of Reclamation's efforts had escalated from $600,000 to between $1,700,000 and $6,700,000 to complete the needed tasks. This change was unexpected and is counter to prior information and contradictory to both bills introduced on Norman's and the District's behalf. Therefore, Norman is requesting that S. 175 introduced by Senator Inhofe be amended to reflect an appropriate amount based on the Bureau of Reclamation's level of effort soon to be approved by the District's member cities. Member cities of the Central Oklahoma Master Conservancy District will provide the matching funds upon approval of this bill.

Completion of the *Feasibility Study* is required in order to consider using Lake Thunderbird as an enhanced long term water supply source. Without it, the District will not have the means to advance toward using Lake Thunderbird beyond its original design parameters. The original design parameters will soon be insufficient to meet the District's long term needs. The amount of water available to Norman is an example of the problems faced. Much more water will be needed in our future. Approval of S. 175, with appropriate funding, is the second step of many to be taken towards providing long term water supplies to the almost 200,000 persons served by the District.

Thank you for your time and effort in representing the public and in your role within the committee addressing the natural resource needs of our great nation. I greatly appreciate the opportunity to present this testimony on behalf of the City of Norman and the Central Oklahoma Master Conservancy District.

Attachment No. 1: Norman Project, Oklahoma, Water Supply Augmentation and Enhancement—Appraisal Investigation, August 2005.

Attachment No. 2: S. 175 as proposed.

[Note: Attachments have been retained in subcommittee files.]

STATEMENT OF ELMER G. MCDANIELS, MANAGER, TUMALO IRRIGATION DISTRICT, BEND, OR

Chairman, Members of the Subcommittee, I am Elmer G. McDaniels, Manager of the Tumalo Irrigation District in Bend, Oregon. The Tumalo Irrigation District (TID) was founded in 1914 and currently serves about 45 square miles with 8,100 irrigated acres between Bend and Sisters, Oregon, on the east slope of the Cascade Mountains.

The District greatly appreciates the introduction of S. 1037, the Tumalo Water Conservation Project Act of 2007, by Senator Smith and Senator Wyden and the opportunity to provide our strong support for the legislation at this hearing. S. 1037 would authorize the Secretary of the Interior to assist in the planning, design, and construction of the TID Water Conservation Project in Deschutes County, Oregon.

This legislation is vital to our area as we continue to undergo the rapid urbanization and growth that is occurring throughout our part of the State during a period of continuing drought. The project involves the piping of approximately six miles of open canals, and returning 20cfs of conserved water to in-stream flows under the Oregon State Water Conservation Statute. This project, when completed, will result in a major benefit to the Deschutes River which is why we know of no opposition to it in the area.

The benefits of this particular water conservation project are to eliminate water loss, enhance public safety, and conserve energy along the project's six-mile length. The completed project, including other work by TID, will deliver pressurized water to TID irrigators during drought years, whereas they now receive an inadequate water supply in 8 out of 10 years. From a watershed enhancement perspective, this project is to provide significant in-stream flow benefits to both Tumalo Creek and the Deschutes River, a major tributary to the Columbia River, draining much of central Oregon. The Middle Deschutes River in the recent past has been reduced to seasonal flows as low as 30cfs, and the goal for this project is to enhance that flow to eventually achieve 250 cfs for the Middle Deschutes basin, a river reach that is significantly productive for trout and anagromous fisheries.

The TID Water Conservation Project will provide a 20 cfs water savings to transfer to in-stream in the Tumalo Creek and the Deschutes River. Together with previous TID water conservation efforts, this represents 10.4% of the 250cfs basin goal for restoring the Deschutes River, which will greatly benefit stream ecosystem and habitat for listed species as well as provide flow stability for both anagromous fisheries and resident species. The completed project will eliminate or reduce farm pumping systems thereby saving energy, realize pressurization throughout the irrigation systems, and reduce the risk of injury and drowning to small children growing up in our District around open canals.

The Tumalo Irrigation District, even though it is a non-Federal Reclamation District, has a history of working with the Bureau on solutions. The Federal and State interest in having this project constructed becomes apparent given the need for solutions in the Deschutes basin for in-steam flow, anagromous fish, and environmental issues; we view the work that would be undertaken with this project as a model that the Bureau should consider for their own projects, consistent with their Water 2025 Program.

We support the cost-sharing called for under the legislation recognizing the Federal fiscal constraints for the Bureau of Reclamation program. We believe S. 1037 offers a District such as ours the opportunity to undertake a project having so many positive benefits including: water conservation savings, watershed enhancement, protection of listed species, and a reliable water supply to our service area customers during the drought while increasing the public safety of our communities.

Thank you for the opportunity to provide this statement for the hearing record on such an important piece of legislation for our District. And thank you again to Senator Smith and Senator Wyden for their assistance. We look forward to favorable action by the full U.S. Senate on this legislation.

TROUT UNLIMITED,
Boulder, CO, April 23, 2007.

Hon. JEFF BINGAMAN, *Chairman,*
Hon. PETE V. DOMENICI, *Ranking Member,*
Committee on Energy and Natural Resources, U.S. Senate, Washington, DC.

Re: S. 1116

DEAR CHAIRMAN BINGAMAN: Trout Unlimited appreciates the Committee's consideration of S. 1116, the More Water, More Energy and Less Waste Act, that Senator Salazar recently introduced along with you, Ranking Member Domenici and Senator Thomas.

Trout Unlimited is a national non-profit organization with 140,000 members dedicated to the conservation, preservation and restoration of our nation's cold water fisheries and their habitats. In the semi-arid West, there are rivers that cannot provide healthy habitat for native and wild fishes because dams and diversions have so altered the river's natural hydrograph that it can no longer support a fishery. In addition, our working rivers and aquifers are being stressed even further as the region grows ever more rapidly, as climate change threatens to lower water yield through increased evaporation and as global markets affect the viability of the region's irrigated agriculture.

Given all of these factors, one might think that the vast quantities of produced water brought to the surface during energy development, especially coal bed methane development, would be a boon to western fisheries. And yet, this water is rarely put to beneficial use. Rather, its quality is often too poor even for stock watering, and its discharge to the surface can wreak havoc on both productive farmland and fragile aquatic ecosystems. For this reason, producers usually re-inject the water into the ground.

Treatment of produced water on the surface prior to discharge may be an alternative that allows both those who have unmet consumptive needs for water and the

environment to benefit. For this reason, TU supports S. 1116, with one small amendment, explained below. Senator Salazar's statement upon introduction of the bill makes clear that what is currently a liability not only for the industry, but also for landowners, ecosystems and would-be water users, could become a benefit, with proper management and the application of technologies.

The study that S. 1116 proposes in section 3 is critical to reaching the legislative goal. It will be important that the study consider the environmental consequences of various strategies identified not only in terms of whether the strategies will protect the environment during production, but also once production has ceased. Similarly, it will also be important that, in considering the economic obstacles to increasing the beneficial use of produced water, the study assess what are the potential adverse effects of creating a temporary water supply for irrigators and other users, especially down the road when the temporary supply is no longer available. Will the creation of such a temporary supply allow irrigators to stay in business for another generation but also assure an increased battle over scarce resources then?

Suggested amendment: In order to ensure that the study includes the critical issues mentioned in the preceding paragraph, we recommend that you amend the bill to add an additional paragraph to subsection 3(a) to study, "the environmental and economic impacts likely to occur in an area where produced water is used for irrigation or other uses and then ceases to be available for such uses because the energy development that created the produced water shuts down."

TU looks forward to learning more about the pilot projects that S. 1116 would fund, and to commenting through the public process that the statute establishes.

Sincerely,

MELINDA KASSEN.

STATEMENT OF HON. MARK UDALL, U.S. REPRESENTATIVE FROM COLORADO

Thank you, Mr. Chairman, for holding this hearing on my bill, H.R. 902, the "More Water and More Energy Act," and the related legislation (S. 1116) introduced by Senator Salazar.

The purpose of H.R. 902 as passed by the House of Representatives is to facilitate the use of water produced in connection with development of energy resources for irrigation and other uses in ways that will not adversely affect water quality or the environment.

The House bill is similar to one that passed the House last year but on which the Senate did not complete legislative action. It was cosponsored by Representative Pearce of New Mexico and also by Representative Edwards of Texas. I greatly appreciate their support.

The Senate bill expands on the House version in some respects, and I note that it also has impressive support.

I think these bills can help change an energy-industry problem into an opportunity, not just for oil and gas producers but for everyone else who would benefit from increased supplies of useable water.

Especially in the arid west, that covers everyone—not least our hard-pressed ranchers and farmers.

The focus of the House bill is the underground water extracted in connection with development of energy sources like oil, natural gas or coalbed methane. It would do two things:

First, it would direct the Bureau of Reclamation and the USGS to identify the obstacles to greater use of produced water and the how those obstacles could be reduced or eliminated without adversely affecting water quality or the environment.

Second, it would provide for federal help in building 3 pilot plants to demonstrate ways to treat produced water to make it suitable for irrigation or other uses, again without adversely affecting water quality or the environment.

At least one of these pilot plants would be in Colorado, Utah, or Wyoming. At least one would be in New Mexico, Arizona or Nevada. And there would be at least one each in California and Texas. This is to assure that, together, the plants would demonstrate techniques applicable to a variety of geologic and other conditions. The federal government could pay up to half the cost of building each plant, but no more than $1 million for any one plant. No federal funds could be used for operating the plants.

The House bill's goal is reflected in its title—the "More Water and More Energy Act of 2006."

The extent of its potential benefits was shown by the testimony of Mr. David Templet at a hearing on the similar bill of mine the House considered last year.

Mr. Templet testified in support of that bill on behalf of the Domestic Petroleum Council and several other groups, including the Colorado Oil & Gas Association. He noted that produced water is the most abundant byproduct associated with the production of oil and gas, with about 18 billion barrels being generated by onshore wells in 1995.

And he pointed out that if only an additional 1% of that total could be put to beneficial use, the result would be to make over 75 billion gallons annually available for use for irrigation or other agriculture, municipal purposes, or to benefit fish and wildlife.

Now, remember that in the west we usually measure water by the acre-foot—the amount that would cover an acre to the depth of one foot—and an acre-foot is about 32,8560 gallons, so an additional 75 billion gallons is more than 230,000 acre feet—more water, indeed.

And at the same time making produced water available for surface uses, instead of just reinjecting it into the subsurface, can help increase the production of oil and gas.

At least year's hearing, this was illustrated by the testimony of Dr. David Stewart, a registered professional engineer from Colorado. He cited the example of an oil field in California from which an estimated additional 150 million barrels of oil could be recovered if water were removed from the subsurface reservoir. And he pointed out that where oil recovery is thermally enhanced, a reduced amount of underground water means less steam—and so less cost—is needed to recover the oil.

The potential for having both more water and more energy is also illustrated by the example of a project near Wellington, Colorado, that treats produced water as a new water resource. I had the opportunity to visit it just last week, and found it very interesting.

An oil company is embarking on the project to increase oil production while a separate company will purchase the produced water to supplement existing supplies, eventually allowing the town of Wellington and other water users in the area to have increased water for drinking and other purposes.

In view of its potential for leading to both "more water" and "more energy" I was pleased but not surprised that last year the Administration, through the Interior Department, testified that it "agrees that the goals of the House bill are commendable and the needs that could be addressed are real" and that the roles the bill would assign to the Bureau of Reclamation and the USGS are consistent with the missions and expertise of those agencies.

In view of all this, I submit that legislation along these lines deserves the support of the Senate as well as the House of Representatives.

STATEMENT OF THE DOMESTIC PETROLEUM COUNCIL, ALSO ON BEHALF OF THE COLORADO OIL & GAS ASSOCIATION; INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA; INDEPENDENT PETROLEUM ASSOCIATION OF THE MOUNTAIN STATES; INTERNATIONAL ASSOCIATION OF DRILLING CONTRACTORS; NEW MEXICO OIL & GAS ASSOCIATION; PETROLEUM ASSOCIATION OF WYOMING; U.S. OIL AND GAS ASSOCIATION; AND WESTERN BUSINESS ROUNDTABLE

The large independent exploration and production companies of the Domestic Petroleum Council as well as the member companies of the Colorado Oil and Gas Association, Independent Petroleum Association of America, Independent Petroleum Association of the Mountain States, International Association of Drilling Contractors, New Mexico Oil & Gas Association, Petroleum Association of Wyoming, US Oil & Gas Association and the Western Business Roundtable appreciate the opportunity to offer our support for S. 1116, the More Water, More Energy and Less Waste Act of 2007 and its goals of facilitating beneficial use of water that must be produced by energy extraction operations while also exploring ways of reducing such water production.

Produced water is the most abundant byproduct—unfortunately often characterized as a "waste"—produced in the oil and gas production process. There are not many wells in this country that do not produce some water. While the quality of the water varies dramatically, we believe there are significant opportunities to convert more produced water to beneficial use.

According to the American Petroleum Institute (API) about 18 billion barrels of produced water was generated by U.S. onshore operations in 1995. Some significant share of that water is already used for irrigation, livestock watering and the like, but converting just 1% more of that total to additional beneficial use would yield over 75 billion gallons more useable water for irrigation, ranching, fish and wildlife enhancement, stream augmentation or drinking water.

The produced water that contains the lowest concentration of total dissolved solids, or TDS, (less than 10,000 parts per million, or ppm) is found in the Western United States where water is a critical resource (see attachment). For example, energy operations in the Powder River Basin in north-central Wyoming produce approximately 1.4 million barrels of relatively good-quality water per day. A large volume of this water could be used for agricultural, ranching and other purposes.

Beneficial use of water in these arid environments should be a win-win for the energy industry and water consumers, but the costs of water treatment and inconsistent water quality regulations among states make that process extremely difficult.

Section 3 of the proposed legislation recognizes the need to fully identify the legal and regulatory problems with beneficial use water and find solutions. Early attempts to implement beneficial use solutions have faced state-specific water rights issues and regulatory restrictions or prohibitions. The research conducted in response to this legislation needs to evaluate existing regulatory barriers for beneficial use, particularly with surface discharge under the Environmental Protection Agency (EPA)'s National Pollutant Discharge Elimination System (NPDES) onshore permit programs. Additionally, a number of the issues preventing or posing obstacles to the surface discharge of produced water are firmly within the arena of state agencies, current rulemaking and lawsuits.

Often the biggest hurdle to beneficial use is finding the technology to accomplish water treatment in a cost effective manner. Water treatment must compete with the lower-cost option of deep well injection. And while deep well injection is the most environmentally sound method of disposal, it forgoes the opportunity to use millions of gallons of water as a resource.

Management and/or conservation of produced water can represent a critical cost component that affects the economic viability of oil and gas production. Research that provides concise and comprehensive information on produced water and ways in which it can be managed can help operators, regulators, landowners, and other stakeholders to be better informed and support management options that can lower production costs and protect and even enhance the environment.

With respect to the demonstration projects authorized in S. 1116, we trust that a Senate-House conference agreement will ensure appropriate direction with respect to their regional allocation. We note, however, that such projects will undoubtedly be most important in areas that are seeing the most significant energy activity increases and corresponding water quantity and quality issues. And, since produced water volume and quality varies greatly across the country, it will be important to have enough projects to fully evaluate the opportunities for increased conservation and use of that water.

The consultation language of S. 1116 specifying involvement of those with experience ". . . relating to production of oil, natural gas, coalbed methane, or other energy resources (including geothermal resources) . . ." is important to ensure that appropriate projects are selected. To ensure that their potential is fulfilled to the maximum degree, however, the legislation may need to be more explicit as to the qualifications of those who may apply and be awarded grants. The ability to carry out meaningful projects with real potential benefits will be crucial. We strongly support the involvement of energy industry representatives to help guide the research and demonstration project efforts to help ensure that practical and transferable technology is developed.

Again, useable produced water can be an abundant resource but the technology must be cost-effective when compared with other disposal options available to the industry.

We encourage you to evaluate the cost implications and incentives that may be necessary to fulfill the true intent of this legislation which is to find ways to conserve such a valuable resource, while converting water that must be produced as part of our energy supply efforts is put to beneficial use.

We will be glad to help see a final version of S. 1116 signed into law, and we appreciate the opportunity to provide our views.

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